

ROLE APPRAISAL AND SOCIAL SUPPORT INFLUENCES
ON STRESS AND LIFE SATISFACTION
OF WOMEN IN GRADUATE AND PROFESSIONAL TRAINING

By

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A DISSERTATION PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

UNIVERSITY OF FLORIDA

1991

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Dedicated to my husband, Michael Quigley, my daughter,
Rachel Glickman, my son, Daniel Quigley, and my stepson,
Shen Hunt, with love and appreciation for schooling me in
commitment, endurance, and limits.

And to Norman Rosenkrantz for being more than a friend. This
surely would not have happened without his support.

ACKNOWLEDGEMENTS

I wish to thank the following people for their help in completing the dissertation.

Very special thanks are extended to Dr. Ellen Amatea, my chairperson, for nurturing my interest in the area, her guidance, patience, optimism, and unflagging belief that I was on the right track and that I would, of course, get it done.

I wish to thank the members of my supervisory committee, Dr. Harry Grater, Dr. Greg Neimeyer, and Dr. Jim Morgan, for their encouragement, careful readings and suggestions. I also want to thank Dr. Peggy Fong, former member of my committee, for her recommendations on the proposal and her tangible support.

I want to thank Dr. Jane Moorman, Director of Counseling and Psychological Services, and Dr. Jennifer Anderson, Staff Psychologist at the Counseling Center at the University of California at Berkeley, for sponsoring me and the study on the University of California at Berkeley campus.

I wish to thank Dr. Richard Lazarus, Professor of Psychology at the University of California at Berkeley, for his comments and suggestions on the design during the early

stages of development. My thanks go to Karen Garrett of the Survey Research Center at the University of California at Berkeley for her invaluable suggestions on format and survey design. I also wish to thank Andrea Parecki for her class notes and theoretical discussions.

My sincere appreciation goes to Emilie Osbourn, Dean of Student Affairs for the School of Medicine at the University of California at San Francisco, and her administrative assistant, Julianne Munroe; William Hoskins, Dean of Student Affairs for the School of Dentistry at the University of California at San Francisco, and his assistant, Sabrina Magobet; Leslie Oster, Dean of Student Affairs, Reva Siegal, Professor, and Margarita Martinez, Registrar at the Boalt School of Law at the University of California at Berkeley, for smoothing the way for data collection at the professional schools.

I want to thank Rudy Taay, Senior Administrative Analyst in the Office of Academic Records, for his willing support and suggestions for helpful persons to contact. I wish to thank Helen Lee and Russell Low from the Office of Academic Records at the University of California at Berkeley for their programming assistance and willingness to squeeze my work into their "off" moments.

I want to thank the staff at the College of San Mateo Central Duplicating Service, especially Ray and Cory, for their patience, skill, and speed in the reproduction of the study materials.

I want to thank my daughter, Rachel Glickman, and her friend, Aki Bando, for their indispensable assistance in collating and bundling the surveys for mailing--even into the wee hours. I also wish to thank Sheron McCartha for labeling and helping with other odd jobs at odd moments.

My gratitude is unending to Jim Christopoulos and Joanne Jensen for their insightful suggestions and help in learning to use the mainframe, running and interpreting the analyses, their good humor, kindness, and friendship.

I am especially grateful to Nory Ison for stepping in at the eleventh hour to make my programs error free, giving up his lunches to discuss strategies and interpretations of the analyses, and for making it all seem clear.

Finally, my appreciation is extended to Michael Acree for his invaluable and constructive critiques, suggestions for further analyses, encouragement, and for making "housecalls."

I want to thank members of my family, Samuel and Jeannette Scherer, Marlene and Lenny Riba, Wendy Smith, Esther and Walter Rosen, Roberta and Sheldon Scott, Edith Glickman, and special friends Sharon Key, Louis Wallace, Judy and Jimmy Davison for letting me know through this extended process that I was loved, was cared for, and belonged.

TABLE OF CONTENTS

	<u>page</u>
ACKNOWLEDGEMENTS.....	iv
ABSTRACT.....	ix
CHAPTERS	
I INTRODUCTION.....	1
Scope of the Problem.....	3
Need for the Study.....	14
Purpose.....	16
Research Questions.....	17
Significance of the Study.....	18
Definition of Terms.....	20
Organization of the Study.....	25
II LITERATURE REVIEW.....	26
Introduction.....	27
Women in Graduate and Professional Training.....	31
Historical Context.....	33
Barriers to Women in Professional Graduate Education.....	36
Institutional factors.....	37
Psycho-social constraints.....	43
Women's Training and Advancement Patterns.....	54
Discontinuity.....	54
Attrition.....	55
Choice of field.....	57
Career patterns.....	60
Perspectives on Multiple Role Research.....	65
Health Benefits of the Work Role.....	65
Core Gender Assumptions.....	67
The Deviance Model.....	69
Scarcity Models.....	74
Expansion Models.....	81
Stress Theories.....	93
Life events model concerns.....	95
Transactional Stress Model.....	97
Role of Social Support in Women's Stress.....	104
Social Support Findings.....	104
Social Support Conceptual issues.....	110
Social Support Methodological Concerns.....	112
Transactional Formulations for Social Support.....	113
Convergence of Research.....	115
Variables in the Study.....	121

III	METHODOLOGY.....	123
	Research Design.....	124
	Life role variables.....	124
	Moderator variable.....	125
	Criterion variables.....	126
	Population.....	126
	Sampling Procedures.....	129
	Sample.....	130
	Instrumentation.....	135
	Measures of demographic information.....	135
	Perceived quality of experience.....	136
	Social support.....	139
	Stress.....	141
	Life satisfaction.....	144
	Data Collection.....	146
	Research Questions.....	146
	Data Analyses.....	147
IV	RESULTS.....	149
	Research Questions.....	149
	Question One.....	149
	Question Two.....	152
	Question Three.....	155
	Question Four.....	160
	Summary.....	166
V	DISCUSSION.....	168
	Question One: What the Sample Reports.....	168
	Question Two: Role Combination Occupancy.....	171
	Question Three: Perceptions of Role Quality.....	173
	Question Four: Perceptions of Social Support.....	175
	Limitations of the Study.....	178
	Implications.....	180
	Summary.....	184
	REFERENCES.....	185
	APPENDICES	
	A COVER LETTER.....	200
	B WOMEN IN PROFESSIONAL TRAINING STUDY QUESTIONNAIRE.....	202
	C MEMO TO MEDICAL STUDENTS.....	211
	D MEMO TO LAW STUDENTS.....	213
	BIOGRAPHICAL SKETCH.....	215

CHAPTER I INTRODUCTION

More American women are seeking advanced professional training than ever before (Gappa & Uehling, 1979; McMillen, 1986; National Research Council, 1987; Ottinger, 1987). As increasing numbers of women enter professional training, questions are being raised as to how such training affects women's psychological and physical well-being. Admittedly, training for a profession is an arduous process (Astin, 1973; Poloma, 1972) requiring extensive commitments of time (Patterson & Sells, 1973), energy, and money (Butler & Marzone, 1980; Feldman, 1974; Patterson & Sells, 1973). In addition, women in academic training settings continue to report facing social and institutional barriers such as having few or no female role models or mentors (Feldman, 1974; Gibbs, 1984; Hall & Sandler, 1982). Moreover, women students indicate that they are often perceived by male faculty and male students to be less competent and/or less committed to training and to their field (Feldman, 1974; Mellow & Goldsmith, 1988; Sandler & Hall, 1986; Schwartz & Lever, 1973). Finally, women students have reported experiencing discomfort with the sexualization of

faculty-student interactions, including sexual harassment (Hall & Sandler, 1982; Sandler & Hall, 1986).

Is involvement in advanced professional training beneficial or hazardous to women's mental health? Do women engaged in a number of other life roles in addition to graduate professional training place themselves at greater risk for developing stress symptoms than do their female colleagues who are not so involved? Although an accumulating body of research (Barnett & Baruch, 1985; Barnett & Baruch, 1987b; Crosby, 1987; Hoffman, 1973; Thoits, 1983b; Verbrugge, 1983a; 1983b) suggests that women's involvement in paid work in addition to the roles of wife and mother has a positive effect on women's physical and mental well-being, there has been only limited attention given to examining the effects of women's involvement in and appraisal of professional training along with other significant life roles.

Previous studies have shown that women tend to have a much lower rate of completion of professional training than do men (Butler & Marzone, 1980; Feldman, 1974; Patterson & Sells, 1973). Moreover, those women who do complete professional training report career patterns which differ markedly from their male counterparts (Astin, 1973; Cartwright, 1978; 1979; 1987; Gellesse, 1985; Graham, 1972; McMillen, 1986; Schwartz, 1989; J. White, 1972). Little information is available, however, concerning how the quality of women's experience in these various roles may

lead to these outcomes. Is the reported quality of the training role, for example, strongly associated with certain stress outcomes? Do certain role involvements have a detrimental effect on women students' well-being while others have a beneficial one?

Despite the increased attention given to examining the effects of involvement in paid work for women, little is known about the experience of women involved in professional training. A number of studies suggest that women's expectations of work (Holahan & Gilbert, 1979a; Sekaran, 1985), their perceptions of work environment quality (Barnett & Baruch, 1985; Baruch & Barnett, 1986; Holahan & Gilbert, 1979b; Stewart & Malley, 1987), and the nature of their role burdens outside the domain of their occupation (Barnett, 1982; Baruch & Barnett, 1986; Gilbert & Hanson, 1983; Nevill, 1984; Verbrugge, 1987) can influence their health risk. Their resources for coping with these situations (Amatea & Cross, 1981; Amatea & Fong, 1987; Gibbs, 1984; Gilbert, Holahan & Manning, 1981; Hall, 1972; Harrison & Minor, 1982; Pearlin & Schooler, 1978; Skinner, 1980) can also influence health indicators. Few efforts have been made to apply these work role models to the study of women in professional training.

Scope of the Problem

Research examining the relationship between the role involvements and stress of women in professional training is quite limited. However, a significant body of research

has developed in which the relationship between women's employment status and stress outcomes are explored. This literature yields two types of information useful to the researcher interested in examining women in professional training contexts: research findings concerning the effects of multiple role involvements on women's mental and physical well-being, and a number of useful conceptual and methodological research tools.

An examination of the research literature shows several marked shifts in conceptualizations of and methodologies used in the study of women's roles. There have been a number of studies exploring the impact of multiple roles and particular role combinations on well-being indices such as self esteem, happiness, and satisfaction (Beckman, 1978; Gilbert, Holahan & Manning, 1981; Holahan & Gilbert, 1979a; 1979b; Sekaran, 1985); on stress reaction indices such as anxiety or depression (Barnett & Baruch, 1985; Baruch, Biener & Barnett, 1987a; 1987b; Kandel, Davies & Raveis, 1985; Keith & Schafer, 1980); and psycho-physiological symptoms (Cleary, 1987; Cooke & Rousseau, 1984; Verbrugge, 1983a).

Much of this well-being and health outcome research is based on core gender assumptions regarding male and female roles. Among those scrutinized are assumptions regarding whether women are innately (e.g. biologically) suited for and protected by (or subjugated to) domestic and nurturing roles (Baruch, Biener & Barnett, 1987a; Crosby, 1987;

Poloma & Garland, 1971) of homemaker, wife, and mother and their outside-the-home corollaries of secretary, nurse, or teacher. In the earliest studies of women's role stress the endorsement of "true womanhood" (Fowlkes, 1987) was clear. If a woman aspired to "male" fields or the professions, she was viewed as deviant (Almquist & Angrist, 1970; Levitt, 1971; Marshall & Witjing, 1980; Yogev, 1983). Support for these core gender assumptions was less blatant but nonetheless apparent in the research derived from later theories, like the scarcity hypothesis that was first proposed by Goode (1960) and supported by other theorists. "Scarcity" in this model referred to a sparsity of emotional and physical energy, that results from the draining efforts expended in engaging in numerous roles. According to this view, engaging in multiple roles inevitably results in role conflict and stress, especially for women.

Such theories conceptualize a linear and additive relationship among roles assuming that more roles result in greater demands for performance and less energy available to meet these proliferating obligations. Hence, the more roles a person occupies the less energy he or she would have, the more conflict would be experienced, and the more likely that well-being would be jeopardized. Interestingly, the roles assumed to conflict were different for men and women: family and work role conflicts were scrutinized closely for women and rarely even considered

for men (Barnett & Baruch, 1987b; Coser & Rokoff, 1971; Crosby, 1987; Fowlkes, 1987). The assumption was that when a woman worked outside the home she took on an overload because her primary responsibility was to take care of her home and her family's physical and emotional needs. She felt guilty if work and domestic spheres clashed. In contrast, a man's involvement in the family was believed to be less direct and onerous. He demonstrated his engagement in the family's operation and well-being by his breadwinning efforts. His work and family roles converged rather than conflicted and no negative emotional or physical outcomes were expected from dual role membership.

The typical research design based on this model has been that of comparing roles occupied two at a time and taking measures of role conflict (Beckman, 1978; Holahan & Gilbert, 1979a; 1979b; Johnson & Johnson, 1976; Mead, 1972; Poloma & Garland, 1971; Staines, Pleck, Shepard, & O'Connor, 1978; Van Meter & Agronow, 1982). Such a seemingly simple approach carried inherent flaws. By assuming and limiting their studies to examinations of conflict, investigators overlooked the possibility that there could be positive outcomes for multiple role membership. Also, the relationship between conflict and well-being was not clearly demonstrated but implied: persons reporting high conflict were presumed to experience negative health consequences. Not surprisingly, results of

studies following this research design were ambiguous. Some women reported role conflict or strain; whereas, others with similar seeming role involvements did not (Barnett, 1982; Barnett & Baruch, 1985; Holahan & Gilbert, 1979b; Skinner, 1980). In addition, more recent large scale epidemiological studies have failed to report a significant compromise in mental or physical health (Verbrugge, 1983a; 1983b) for women who combine work and family roles.

At about the same time, Coser & Rokoff (1971) elucidated a position that ran counter to the prevailing notions of gender norms. These theorists argued that any incompatibility between work and family roles might be a cultural rather than a biological artifact. Hitting a responsive chord among other thinkers in the field (Thoits, 1983b; 1987), this perspective significantly shifted the course of research efforts on women's multiple roles.

In the mid 1970s the expansion hypothesis proposed by Marks (1977) and Sieber (1974) countered the scarcity model and supported a cultural explanation for gender differences in role strain. This theory emphasized the privileges rather than the obligations that accrue to multiple role bearers. Roles certainly carried demands and expectations but they could also carry with them the possibility for status, prestige, and other social resources for meeting these demands. They argued that the rewards of occupying several roles offset the costs. Recent research by Barnett

& Baruch (1987b), Cartwright (1987), Coleman, Antonucci & Adelman (1987), Crosby (1987), Gove & Zeiss (1987), Stewart & Malley (1987), Thoits (1983b), and Verbrugge (1987) supported this expansion hypothesis. In an analysis of within sex differences in women's physical health, Verbrugge (1983b) concluded that multiple role involvements for women sampled were associated with better health.

If, as research seemed to indicate, occupying multiple roles generally had beneficial health outcomes for both men and women, then what would account for particular roles and role combinations having varying effects? One perspective conceived of roles as external sets of expectations to be assumed by an individual. Another perspective considered social roles as psychological constructions wherein each demand or expectation was mediated by cognitive appraisals as to its relevance and fit for a particular individual and her resources. Multiple role research has been evolving toward this latter, more psychological, conceptualization. More emphasis is being placed on the personal meanings subjects attribute to their roles along with other possible mediating circumstances, such as the giving and receiving of social support, in an effort to explain the differences in well-being outcomes among women. One model that has emphasized the role of cognitive mediational processes in health outcome research is the transactional model of stress.

An application of a transactional model of stress to the stress experience of women is based on a dynamic conceptualization of the individual and her environment. According to this theory stress occurs when the environment is appraised by individuals as taxing or exceeding the resources available to meet them. When this state occurs negative consequences follow and one's well-being is threatened. Demands are seen as emanating from the environment in the form of discrete life events which may be either acute, major life events, or chronic, low-level life strains and daily hassles. A key feature of this model is the role that cognitions (called appraisals) played in mediating reactions to those events. Primary appraisals describe the individual's assessment of what is at stake for her: how the demands might affect her well-being. Secondary appraisals involve the individual's assessment of the emotional, physical, and social resources available to her to meet these demands. These combined appraisals result in her labeling the situation as a harm-loss, a threat (of harm or loss), or a challenge; and guide her plan of action (coping strategy) (Lazarus & Folkman, 1984; Lazarus & Launier, 1978; Pearlin, 1983; Pearlin, Menaghan, Lieberman, & Mullan, 1981; Schaefer, Coyne, & Lazarus, 1981). Through a reappraisal process individuals monitor person-environment transactions and make adjustments in their coping efforts.

Social support is seen as one social resource for

coping with and meeting such demands (Lazarus & Folkman, 1984; Lazarus & Launier, 1978; Pearlin, 1983; Pearlin et al., 1981; Schaefer et al., 1981). Like the event itself, potential resources for coping are appraised and marshalled into the coping response.

Social support as a personal resource would seem to be of key interest to multiple role researchers since both areas of inquiry are concerned with personal functioning as a result of social ties. Indeed, much has been written about the stress moderating effects of social support inherent in multiple roles. Belle (1987) argued that members of social networks help prevent demoralization in times of distress and increase options in confronting change and loss. Involvement in supportive relationships has been correlated with lowered stress in individuals experiencing a variety of problems including: job loss (Gore, 1978), complications in childbirth (Nuckolls, Cassel, & Kaplan, 1972), adaptation to the mothering role, maladaptive parenting, adult onset of hearing loss (Turner, 1981; Turner, Frankel, & Levin, 1983), psychosis (Eaton, 1978, Lin, Dean, & Ensel, 1981; Turner, 1981), physical illness (Sarason, Sarason, Potter, & Antoni, 1985), occupational stress (LaRocco, House, & French, 1980), single parenting (Brown & Gary, 1985), and engagement in nursing training (Norbeck, Lindsey & Carrieri, 1981). Although difficulties in conceptualizing and operationalizing social support have resulted in

ambiguities about whether it functions as a main or moderating effect, empirical studies tend to show positive though moderate support for this contention, especially when subjects' perceptions of the quality of support were considered (Turner, 1981).

Life stress and social support investigators have gone to great lengths to describe in detail the origins, mediators, and manifestations of stress. Yet Pearlin (1983) argued that in their preoccupation with life changes these researchers have created an imbalance in the understanding of the causes of stress. He gave three reasons why role involvement is relevant in the investigation of the stress-health connection. First, social scientists are concerned with repeated and patterned behavior and experiences as well as "ephemeral, once-in-a lifetime episodes" (p. 5). Second, people are socialized to invest themselves in their institutional roles. Finally, because an array of social forces converge in one's roles they can become a potent source of stress. Thus, Pearlin concluded that roles, especially their perceived quality, as well as life events can be a profitable area in which to seek the antecedents to stress. "What is becoming evident is a growing body literature pointing to the quality of the event as the determinant of whether or not it will result in stress, not the occurrence of the event per se" (Pearlin, 1983, p. 4).

Thus, most recent researchers have attempted to

clarify the circumstances under which women's involvement in multiple roles may or may not result in psychological and physical distress. These research efforts have resulted in several advances in current methodology: the development of more rigorous ways of describing the nature of role conditions women experience, the identification of significant moderating variables, and more complex analyses.

While early researchers relied on gross measures of mere role occupancy, changes in the conceptualization of women's experience have moved from counting the number of roles to analyzing the effects of combinations of roles, and finally to more sensitive measurements of women's perceptions of the quality of their roles (Barnett & Baruch, 1987a; 1987b; Baruch & Barnett, 1986; Thoits, 1987; Verbrugge, 1987). Recent studies of women engaging in multiple roles more precisely suggest that not all roles or role combinations have a positive effect on women. The perceived quality of one's roles could reverberate through the entire role constellation and effect one's well-being. Researchers report, for example, that a husband's perceived support, or lack thereof, influences the degree of role conflict or strain experienced (Beutell & Greenhaus, 1982; Hall & Hall, 1979). Other researchers suggest that being a mother, especially of children under age six, is often associated with psychological distress (Barnett & Baruch, 1985; Cook & Rousseau, 1984; Keith &

Schafer, 1980; Staines et al., 1978) and physical disorder (Verbrugge, 1983a; 1983b)--whether the woman works outside the home or not. Furthermore, studies indicate that women with large families that include children under age six are at greater risk for depression. The role of mother was consistently related to role overload and conflict (Barnett & Baruch, 1985).

A second advance in current multiple role research efforts has been to consider individual factors that may have a mediating effect on the relationship between potential role stressors and psychological and physical distress outcomes. Some studies have focused on identifying personality variables that operated as "personal resources" during stressful times (Kobasa, 1979; Kobasa, Maddi & Courington, 1981; Kobasa, Maddi, & Kahn, 1982; Kobasa & Pucetti, 1983). Others surmise that various coping strategies have an intervening influence (Amatea & Cross, 1981; Beutell & Greenhaus, 1982; Pearlin & Schooler, 1978). Still other researchers have noted that social support influences reported levels of stress (Amatea & Fong, 1989; Brown & Gary, 1985; Turner, 1983).

A third advance in these research efforts has involved adopting more sophisticated data analyses to predict outcomes. Such analyses provide a more detailed look at the varying contributions of potential antecedents.

Finally, while earlier researchers of women's multiple role experience studied roles and assumed distress, more

recent researchers often utilized a transactional model of stress and assume that individuals' cognitive appraisals mediate between events in the environment and responses in the organism. Thus, outcomes of women's role involvement are not predetermined; they can be either positive or negative. By using both models to examine the stress experience of professional level women graduate students, established constructs in each tradition can be evaluated in new ways. Such a hybrid model incorporates contextual demands as well as intraindividual responses (life events construed through one's role expectations). In so doing the appraisal of roles occupied can legitimately be considered an antecedent to the stress response (Pearlin, 1983). Thus, life events can take on different meanings when viewed in the context of a particular role, and the investigator can leave open the direction of outcome.

A synthesis like this allows one to consider such questions as Do women who train for highly competitive, typically male-dominated professions report high levels of stress? Does the evaluation of the quality of experience in one's life roles influence the levels of stress and satisfaction reported? Do particular combinations of life roles and/or social ties exacerbate or alleviate the duress experienced during professional training?

Need for the Study

To date, researchers interested in the role of stress in women have explored the impact of the professional

training context in limited ways (Astin, 1973; Butler & Marzone, 1980; Cartwright, 1987; Feldman, 1974; Hall & Sandler, 1982; Sandler & Hall, 1986). While much attention has been given to looking at women involved in employment along with their other life role combinations, little empirical evidence is available on the effects of professional training on women's life satisfaction and stress. One might expect that the student role, especially in combination with other roles, might result in some distress. In addition, although the mediating effects of an optimistic appraisal of a stressful situation and personal resources for coping have been documented in male and mixed sex populations, they have not been examined for their relative impact on the female professional-in-training.

Second, whereas the transactional model of stress provides a useful framework, few efforts had been made to utilize this model in examining women students' role experience. The features of a transactional model of stress focus on those cognitive mediators which women might use in constructing personal meaning for the various aspects of their major life roles. Thus, the researchers examined the perceptions of students holding varying role combinations, especially individual differences in meaning and personal importance attributed to various features of the roles occupied (appraisal).

Finally, it may be useful to look at women's multiple

roles in terms of benefits as well as demands. Social support may be one of the benefits derived from engaging in multiple roles. Whereas social support is clearly not a comprehensive measure of coping resources nor an explanation for how roles are experienced psychologically, it is one facet of role experience that had some potential predictive power (Amatea & Fong, 1989). Appraisal of coping resources can be considered part of the stress perception process and thereby has the potential to affect subjective perceptions of well-being. Thus, research is needed to describe the levels of stress and life satisfaction experienced by women involved in professional training, and to determine how perceived role quality and social support affect the levels of stress and life satisfaction in this population.

Purpose

The purpose of this study was three-fold. First, the physical and psychological well-being of women engaged in professional graduate education was examined. Two indices of physical and psychological well-being were considered: (a) reported levels of stress symptoms and (b) degree of reported life satisfaction. Second, relationships between women's physical and psychological well-being and their role involvements were explored. Two aspects of women's role involvement were assessed: (a) the particular combination of roles occupied and (b) the quality of the experience within each role. Third, using a transactional

stress model, the mediating influence of social support on women's physical and psychological well-being was explored.

Research Questions

In this study, the levels of physical and psychological well-being experienced by women students and the relationships between these levels of physical and psychological well-being and their role involvements and social support were described. The specific questions were as follows:

1. How can women engaged in professional graduate education be described in terms of (a) the intensity of stress they experience? (b) the strength of life satisfaction they express? (c) the combination of roles in which they engage? (d) the degree of life role quality they report? (e) the level of social support they perceive?

2. Do women involved in different life role combinations differ regarding their reported levels of stress and life satisfaction?

3. How do women's appraisal of their role experiences relate to their levels of stress and life satisfaction?

4. How do women's role appraisal and social support relate to the level of stress and life satisfaction they experience?

Significance of the Study

Examining the influence of the perceived quality of experience in varying life roles in moderating the

reported levels of stress and life satisfaction in women professional level graduate students may contribute to the ongoing refinement of theories of vocational development for women. Moreover, such results may be helpful in shaping institutional policies to meet the needs of women thus engaged. Finally, the results of this study may be useful to counselors and other helping professionals in assisting women in planning their work and family life roles, in developing relevant and responsive programs, and in providing optimal treatments.

Until recently women's mental and physical health concerns have been considered within the framework of male models. Griffith (1983b) noted that "studies of women are needed to identify their stressors, symptoms, and coping patterns as they change during the adult years. With this information, health professionals can assist women with their health-related problems, support appropriate coping patterns, and promote healthier life-styles" (p. 311). This is particularly true of the growing numbers of highly educated women.

Women's career development, to a greater extent than men's, appears to revolve around family considerations. If the influence of life role stressors and the impact of family roles on the well-being of women preparing for professions could be tested more directly and be more clearly understood, a contribution could be made to the ongoing formulation and refinement of theories of gender

differentiated vocational development for women. In addition, the results of this study may have implications for family planning by providing useful information for decision-making about the timing of child-bearing and career preparation. Similarly, such information may be helpful in shaping curricula and institutional policy to meet educational needs unique to women graduate students who concurrently engage in family roles. Key areas of concern for counselors in college settings are optimal career development as well as individual and family adjustment. Other health professionals on campuses are perhaps more concerned with forms of physical and psychosomatic complaints that appear to be stress-related. By increasing the understanding of the combined influences of life role involvements, student and other role demands, and social support on the felt stress and satisfactions of women engaged in professional graduate studies this study may help sensitize counselors and other health professionals in training and in the field to relevant areas of concern.

Definitions of Terms

A number of terms are used throughout this paper, and are further defined and elaborated here.

Appraisals (cognitive) consist of a continuously changing set of judgments about the significance of the flow of events for the person's well-being (Lazarus & Launier, 1978, p. 302).

Coping consists of efforts, both action-oriented and intrapsychic, to manage (i.e. master, tolerate, reduce, minimize) environmental and internal demands, and conflicts among them, which tax or exceed a person's resources (Lazarus & Launier, 1978, p. 311).

Coping competence includes a set of social skills a person learns and draws upon in stressful encounters with the environment (Lazarus & Folkman, 1984, p. 250).

Demands are pressures from the environment that if not met and neutralized somehow, will result in harmful consequences to a person (Lazarus & Launier, 1978, p. 288).

Demands (external) are events occurring outside a person that impose adaptive requirements that, in the event of failure of suitable action, will lead to negative consequences (Lazarus & Launier, 1978, p. 296).

Demands (internal) refer to goals values, commitments, programs, or tasks acquired by an individual (or social system or tissue system) whose thwarting or postponement would have negative consequences or implications (Lazarus & Launier, 1978, p. 296-7).

Life roles are patterns of expectations which apply to particular social positions and which normally persist independently of the person occupying the position (Merton, 1957).

Life role appraisals are cognitive perceptions and judgments about the quality of experience (rewards and

concerns) arising from patterns of expectations which apply to particular social positions and the significance that they have for the person's well-being.

Life role involvements are the number and combination of major life roles in which one is currently engaged.

Life satisfaction is an individual's assessment of the nature and quality of his or her life experience.

Multiple role persons are those who simultaneously engage in one or more of the major life roles of student, employee, spouse, and/or parent.

Perceived social support refers to the nature of the interactions occurring in social relationships, especially how these are evaluated by the person as to their supportiveness (Lazarus & Folkman, 1984, p. 249). Social support is one element in an individual's appraisal of and subsequent coping with stress. Support seeking results from appraisals indicating that there is a threat to which one must respond, that information or help is needed to deal adequately with the threat, and that aid is perceived to be available within one's support network (Procidano & Heller, 1983, p. 2). Social support is also the extent to which an individual believes that his or her needs for support, information, and feedback are fulfilled (Procidano & Heller, 1983, p. 2).

Resources (adaptive) consist of any properties of the system that have the potential capacity to help meet demands and hence to prevent the negative consequences that failure of suitable action would entail (Lazarus & Launier, 1978, p. 297).

Roles (social) consist of the systems of expectations which exist in the social world surrounding the occupant of a position. Prescribed roles are expectations regarding a person's behavior toward occupants of some other position; Subjective roles consist of those specific expectations occupants of certain positions perceive as applicable to their own behavior when they interact with the occupants of some other position.

Enacted roles consist of the specific overt behaviors of occupants of certain positions when they interact with the occupants of some other position (Deutsch & Krauss, 1965, p. 175).

Role ambiguity occurs when a person is unclear as to what is expected and it thereby unable to plan effectively or to behave in a direct manner (Lazarus & Folkman, 1984, p. 239).

Role conflict occurs when an otherwise benign social demand causes stress if satisfying it violates a strongly held value; can also arise when, in order to satisfy the demands of one role, the requirements of another must suffer (Lazarus & Folkman, 1984, 238-239).

Role demands are normative patterns of expectations about behavior. They can be important in shaping a person's thoughts, feelings, and actions while not necessarily being a source of stress (Lazarus & Folkman, 1984, p. 238).

Role overload occurs when social demands exceed a person's resources (Lazarus & Folkman, 1984, p. 239).

Role proliferation is a situation in which the individual encounters and seeks to fulfill several disparate and disassociated roles. It requires deep commitment to two or more roles. These roles are synchronous and continuous and constantly pose competitive concerns and demands (Gilbert et al., 1981).

Role strains are the hardship, challenges, and conflicts or other problems that people come to experience as they engage over time in normal social roles (Pearlin, 1983, p.8).

Social support has three types of functions: (a) emotional, including attachment, reassurance, being able to rely on and confide in a person; (b) tangible, involving direct aid such as loans and gifts, and services such as taking care of someone who is ill, doing a job or chore, etc.; (c) informational, providing information or advice, and giving feedback about how a person is doing (Lazarus & Folkman, 1984, p. 250).

Stress is indicated by signs and intensity of physical,

behavioral, and psychological symptoms (somatization, obsessive-compulsive, interpersonal sensitivity, anxiety and depression) (Derogatis et. al., 1974).

A transactional stress model is a cognitive-phenomenological analysis of psychological stress wherein several varieties of relationships that are said to occur between the personal and the environment are being mediated by cognitive appraisal processes. The three key stress-relevant relationships are harm-loss, threat, and challenge. They describe a balance of forces such that environmental demands tax or exceed the resources of the person. It is a model that seeks merely to describe the stress process, rather than predict or explain it (Lazarus & Launier, 1978, p. 288).

Women engaged in professional graduate education are women who are currently preparing for professional careers and are actively pursuing a doctoral degree, or a professional degree in dentistry, law, medicine.

Organization of the Study

The remainder of the study is presented in four chapters. Chapter II consists of a review and analysis of the relevant literature. Chapter III presents the methodology of the study including a discussion of the design, the population and sample, the sampling procedure, instrumentation and variables, the data collection procedures, data analysis, and the limitations of the

study. The results of the study are presented in Chapter IV. The final chapter is devoted to a discussion and interpretation of the results, the limitations of the study, and consequent recommendations.

CHAPTER II LITERATURE REVIEW

The purpose of this chapter is to review and analyze the theoretical and research literature concerning professional women's role stress. Three major areas were addressed in this review: the status of women in graduate and professional training, theoretical perspectives on professional women's role stress, and the role of social support in the study of women's stress.

In the first section the marked increase in the number of women entering graduate training in male-dominated professions in the last decade is discussed along with literature describing the concomitant institutional and social pressures which women in these contexts may face. The second section provides an historical overview of the various theoretical and research perspectives used in studying women in the professions. This is followed by a review of the stress and social support research literature. In addition to describing pertinent research, each of these sections includes a discussion of the conceptual and methodological issues and problems relevant to that body of research. The fifth section details the most recent studies that represent a crossover of research

traditions. The chapter concludes with a summary highlighting and integrating the concepts reviewed.

Introduction

The controversy about the effects of women working, especially in highly competitive, male dominated professions, has continued unabated over the last twenty years. The trends and conclusions about the effects of women working keep shifting, but at the heart of the matter lie gnawing questions about the costs incurred in terms of women's productivity and longevity in the workplace (Schwartz, 1989), the effects of women working on the health and quality of life for their families, and the effects on the working professionals themselves who are wives and mothers. As prevalent as these concerns may be, very little is known about women's stress experience during the time they are involved in graduate and professional training. How complex are their role involvements? What are the costs and benefits of their roles during this period of their lives? Do they actually experience and exhibit the signs and symptoms of distress? Do they express satisfaction with their lives?

Although there is some research on this population, it is limited and rarely inquires about life roles as a source of distress or satisfaction. There are, however, two separate but parallel bodies of literature that yielded important parallels and suggested variables and methods for

study: multiple role research and life stress research literatures.

Although paid employment is an economic necessity for many women, becoming a highly educated, high achieving professional is a challenging lifestyle choice open to only a select few. Training for a profession is a long and arduous process. Advanced professional training typically involves a multi-year commitment to advanced postgraduate education (which can be unevenly funded) with progressively increasing demands for responsibility-taking and high level performance. Basic law, dental and medical education usually lasts three to four years. Depending on areas of interest and type of specialty, internships and residencies can add years. Doctoral education also spans many years: two to four years of coursework plus clinical training, teaching and/or research and dissertation writing. Patterson and Sells (1973) reported the finding from their national study of doctoral training found that the mean time for completing the doctorate was 11.7 years in the humanities and 7.3 years in the physical sciences. The possibility of postdoctoral training can stretch that time commitment even further.

Aside from a considerable time commitment, the professional training process itself is quite rigorous. Voluminous amounts of reading, extensive writing and high performance on exams are de rigueur (Cartwright, 1979; Poloma, 1972; Roby, 1972). In addition to coursework,

students are expected to demonstrate clinical, teaching and/or research competence. Thus, not surprisingly, admission to professional graduate programs is limited to a select group of persons with strong academic promise.

Although the percentages vary by campus and program women who are admitted and those who complete graduate degrees comprise only a fraction of the general population.

According to Astin (1973),

Women doctorates constitute a unique group in that they are a small minority among the female population as a whole. Less than half of all female high school graduates enroll in college, about half of this number graduate from college, and of those who graduate one in a hundred go on to obtain the Ph.D. (p. 139)

Though her statement was based on sixteen-year-old figures and limited to doctorates, the numbers of highly educated women professionals (doctorates, lawyers, physicians and dentists) completing their training as of 1987 were still quite small in number when compared to the general population (National Research Council, 1987).

Studies have shown that women typically enter graduate school with exceptionally strong academic and intellectual credentials (Butler & Marzone, 1980). A higher proportion of women than men, for example, have very high aptitude scores (Astin, 1973) and grade point averages (GPA) at the time of graduate school entry, and while GPA's for graduate students were not consistently reported there were " data indicating the women have higher GPA's [than men] when entering graduate school (Butler & Marzone, 1980, p. 38)."

In this regard, Butler and Marzone (1980) found that over the span of their undergraduate years 25% of women earned GPA's in the A to A- range compared to 17% of men, that the ratios were similar for the B+ GPA's, while grades of B or lower are earned by 63% of men (compared to 49% of women). Moreover, women were usually rated as capable students while in graduate school. For example, among the select recipients of Woodrow Wilson Fellowships faculty more often ranked women as "excellent" and "very good" (76%) than they did men (66%) (Patterson & Sells, 1973).

Despite the evidence of women's strong academic promise, they formed a distinct minority in graduate education.

When we examine overall enrollment in graduate education, we can see that women constitute a minority of graduate students in all types of institutions. . . . They are more likely to be found . . . in medium- or low-quality colleges than in universities. Graduate education at medium- or low-quality colleges is often oriented toward a master's degree in education, and we would thus expect higher female enrollment at such institutions. There is no relationship between the quality of a university and female representation. Women constitute about a quarter of the enrollment at high-, medium-, and low-quality universities. (Feldman, 1974, p. 15)

Men and women appeared to have equal access to high quality institutions with "approximately 29 percent of each receiving their training at 'top ten' universities (i.e. Columbia, University of California at Berkeley, Yale, Cornell, University of Illinois, Stanford, University of Michigan, Chicago, Harvard and U.C.L.A.)" (Feldman, 1974,

p. 15). In spite of this minority status, a growing number of women appeared to be well qualified and motivated to undertake the commitments of time and energy required for professional training.

Women in Graduate and Professional Training

That women are entering graduate programs and receiving professional degrees in increasing numbers is substantially documented. A cover story in the Chronicle of Higher Education proclaimed, "women are flocking to graduate school in record numbers, and many are specializing in fields that were dominated by men a dozen years ago. Today, women are earning one-third of all the doctoral degrees awarded" (McMillen, 1986, p.1).

The American Council on Education Division of Policy Analysis and Research reported that during the decade from 1973-74 to 1983-84 the total number of first professional degrees increased 39 percent (from 53,816 to 74,900). However, in the same decade the number of first professional degrees awarded to women increased an astounding 340% (from 5,286 to 23,256). This was a period in which women made significant gains in all professions, among them law (26%), dentistry (18%), and medicine (17%). (Ottinger, 1987).

The Fall 1985 issue of the Civil Rights Forum was devoted to detailing this phenomenon in four professional fields. It stated,

More women are entering traditionally male dominated professional fields in recent years than they did twenty, or even ten, years ago. Statistics on degrees awarded to men and women for dentistry, medicine, law, and engineering reveal a steady progress of females into each of these fields. . . . In the academic year 1982-83 colleges awarded professional degrees in dentistry to 954 women, in medicine to 4,134 women, in law to 13,303 women, and, in engineering doctor's degree to 124 women. (Statistics reveal, 1985)

The figures for 1987, the most recent data available, indicated that women law graduates numbered about 13,000; new women doctorates were over 11,000; those who recently became physicians were 4,500; and new women dentists constituted about 1,000 (National Research Council, 1987).

First time professional degrees were defined as the "completion of the academic requirements for beginning practice in a given profession" (Butler & Marzone, 1980, p. 52). Trends for awarding first time professional degrees to women between 1949-50 and 1982-83 were summarized in the following way. In the field of dentistry women were regularly awarded 1% of degrees from 1949-50 until 1972-73. The academic year 1973-74 marked the beginning of a steady annual increase varying between 1% and 4% such that by the 1982-83 academic year 17% of dental degrees were awarded to women and in 1983-4 their numbers rose to 20% (Ottinger, 1987). This trend shows no sign of leveling off. It was predicted that by 1991-92 26% of dental degrees will be awarded to women.

Medicine awarded 10% of its degrees to women in 1949-50 but by 1951-52 this proportion dropped to below 5 percent. Women medical school graduates remained below 5% for the next 20 years. Between 1963-64 and 1969-70 the medical degrees awarded to women inched up to between 6% and 8%. Beginning with the 1973-74 academic year proportional increases of 2% to 3% each successive year has raised the percentage of women receiving medical degrees to 27% by the 1982-83 academic year. In the 1983-4 academic year their ranks rose to 28%. It was predicted that by the academic year 1991-92 the proportion of women receiving medical degrees would rise to 36% if their numbers increased by only 1% annually.

Although no comparable statistics were found for women law graduates in the early 1950's, from 1955-56 until 1963-64 approximately 3% of law degrees were awarded to women. The year 1965-66 heralded a slow growth in women jurists, edging from 4% in that year to 7% by 1971-72. A period of rapid advance commenced in 1973-74 which saw the percentage of women law graduates rise to 36% by 1982-83, and to 37% in 1983-4. As in the health fields this trend also shows no sign of abatement. Civil Rights Forum statisticians predicted 45% of law school graduates in 1991-92 would be female if annual enrollments increased each year by 1% (Statistics reveal, 1985).

Historical Context

The growth of the last decade can be even more greatly appreciated when placed in the historical context. Butler and Marzone (1980) examined trends for women receiving doctorate as well as professional degrees during the last 100 years and found that

the percentage of doctor's degrees awarded to women has grown from 6% to 26%. (Table 61) In 1879 women received 6% of the doctorates. Although this declined to 1% in 1889, it increased to 15% by 1919, remaining steady over the next ten years. Then it began a decline that lasted through the next two decades. After 1959 the percentage of women began to increase so that by 1969 women were 13% of those earning the doctorate. In the last 10 year period, the percentage of women increased rapidly although they still receive only about a quarter of the degrees. (p. 49)

Latest data available indicated that 1987 was the first year in which a slowing of this phenomenon was seen. While the numbers of women doctorates peaked at 11,370, the proportion of women remained at 35 percent of the cohort. Among U.S. citizens a similar stall at 41%. (National Research Council, 1987).

Although women are earning more doctorates and professional degrees than ever before, this growth is not as pervasive as it seems at first blush. Women are concentrated in fewer fields. Gappa and Uehling (1979) stated, "the data show that women are moving into nontraditional disciplines at all levels. Yet the preponderance of degrees awarded to women remains in traditionally female fields" (p.16). For instance, in

1977-78 women received 71% of the doctorates in home economics, 55% in foreign languages, and 39% in letters and in education. However, in the traditionally male dominated fields they earned less than 10% of the doctorates awarded (i.e. engineering, 2%; computer and information sciences, 8%; and in business management, 8%). In the seven year period from 1970-71 to 1977-78 women in all fields were awarded a higher percentage of doctorates.

But because the overall percentage awarded to women increased from 14% to 26% over the seven years, women end up even more underrepresented in some fields than they were previously. For example, women were underrepresented by 14 percentage points in engineering in 1970-71. By 1977-78 this had increased to 24 percentage points. (Butler & Marzone, 1980, p. 51)

Even in 1987 the conclusion drawn by the National Research Council was that in spite "of gains in certain fields, women remain seriously underrepresented" (1987, p.1).

Similar findings were apparent among other highly educated professionals. Women recipients of first-professional degrees were also becoming concentrated in fewer fields, primarily law and medicine.

Thus, in 1977-78, while the largest percentage of women were found in pharmacology (30%), law (26%), veterinary medicine (24%), and medicine (22%). . . . [calculations of] over-and underrepresentation indicate that women have actually fallen farther behind in podiatry, chiropractic medicine, dentistry, theological professions, osteopathic medicine and optometry over the seven year period. (Butler & Marzone, 1980, pp. 52-3)

In summary, while there has been a virtual explosion of women entering training for the professions since the

1970's, there is still evidence of sex segregation by field. Furthermore, numbers alone told little about how women experience training for a profession nor what effect such training had on their physical and mental health.

Not many investigators who study women graduate students inquired about their nonstudent roles. The findings of those studies that do examine the reported quality of the woman graduate student role, tended to be somewhat bleak. These studies were dominated by recurring themes of institutional and social barriers that created an uninviting environment for women in academe.

Barriers to Women in Professional Graduate Education

Research conducted by Hall & Sandler (1982) and Sandler and Hall (1986) suggested that women in higher education, especially those in graduate programs, experienced a less hospitable climate than did men. These claims resulted from examining certain institutional factors (e.g., as admissions policies, financial support, ratios of male to female faculty, lack of female representation in course content and on faculties), and psycho-social factors (e.g. perceptions of women by faculty, male students, and themselves, self esteem, marriage and family role conflicts) inherent in the academic setting.

Roby (1972) defined structural barriers as

those organizational patterns and practices in higher education which hinder female students in their efforts to obtain college or university

educations. These organizational barriers include practices pertaining to student admission and the granting of financial aid, to rules governing life on campus, to residency and full-time-study requirements, to the sexist character of much subject matter taught within universities today, to the composition of faculties, and to maternity and paternity leaves and married students' domestic responsibilities. (p. 122)

Given the number of factors that can potentially operate as barriers, those deemed most salient to this study are discussed. Studies conducted nationally and on single campuses shed some light on institutional and social factors contributing to women's experience of graduate education. Much of the data on which these claims were based came largely from anecdotal reports and interviews of women students, their male classmates, and graduate faculty. Structured surveys (Feld, 1974) and meta-analyses (Hall & Sandler, 1982; Sandler & Hall, 1986) were utilized as well.

Institutional factors

Admissions. Previous studies on women in professional training reported quota systems and other discriminatory admissions policies and actions that favored men entering professional training programs (Roby, 1972). Prior to the mid-1970's it was not unusual for women to be questioned about their marital and childbearing intentions, to have their commitment to study and the profession challenged, to be "counseled out" of certain fields, and told that the schools did not want to discriminate against men who had wives and families to support. Such overt

practices seemed less likely today given Title IX protections (Sandler & Hall, 1986) and the potential for litigation. If a single campus could serve as an example then the exploratory investigation regarding the achievement of gender equity among full time graduate students conducted at the University of Connecticut (Mellow & Goldsmith, 1988) might well illustrate the changes in graduate admission processes that have and are continuing to occur on many of the nation's campuses. As a measure of quantitative gender equity, Mellow & Goldsmith (1988) examined enrollment in graduate study within the School of Liberal Arts on the Storrs campus. These measures revealed that within the School of Liberal Arts seven of fifteen departments were gender balanced (60%-40% gender split) and an even number of male and female dominated disciplines remained, four of each. Furthermore, as another quantitative measure, these researchers looked at financial support, and found that teaching and research assistantships were in balance with the proportion of male and female graduate students by discipline. This was applauded as "a significant beginning for gender equity in graduate education" (p.12) for their campus. While Mellow and Goldsmith (1988) and Sandler & Hall (1986) conceded that "numerous anti-discrimination laws have been passed, and many policies and practices that once limited women's access to academe have been eliminated" (Sandler & Hall, 1986, p. 1), they pointed to a number of subtler indices

of slights to women. These inequities shed some light on the enigmatic statistics which showed that, although women earn "approximately half of the degrees at the undergraduate and master's levels, they earn only 32 percent of the doctorate degrees" (p. 2).

Financial support. Once admitted to graduate and professional programs, students faced the question of how they were to pay for their education (Roby, 1972). The period of professional graduate education could be a period of financial uncertainty for many. The demands of professional graduate education often meant postponing or leaving fulltime employment, extending dependency or becoming dependent upon others (usually spouse or other relatives) for support, and/or assuming large debts in the form of student loans. Some might experience reductions in their standards of living or restrictions in lifestyle choices. Ironically, such constraints in fiscal autonomy often coincide with shouldering greater professional decision-making and responsibility. At certain points of the training program students could be functioning at near professional capacities but not have rewards of a professional salary to counterbalance the pressures of high performance demands.

Many upper-middle-income parents considered financing their sons' and daughters' undergraduate education part of their parental responsibility. However, this often does not extend to graduate training, especially for women. More

traditionally minded families may consider education beyond a B.A. or M.A. a disservice, for "doing so might make catching the right man difficult" (Roby, 1972, p. 123). For many working class families financing education was simply not a possibility (Roby, 1972). Thus, institutional support of graduate students became a critical issue, especially in times of diminishing resources.

Evidence suggested that gender differences in the distribution of financial support exist. For one, sources of support varied for men and women. Butler and Marzone (1980) noted,

Although about the same percentage of both sexes received Federal support [22-24%], the sources within the government varied. Fourteen percent of the women and only 7% of the men received financial assistance from the Department of Health, Education, and Welfare. Men received more of their support from the Department of Defense and from the National Science Foundation. (p.45)

Educational institutions provided support for about 37-39% of men and women. However, women and men were not equally represented in the various fields and "some differences in financial support might be caused by the kinds and amount of support generated by the programs. The sciences, for example, received more scholarships and fellowships than do home economics and other female-oriented fields" (Butler & Marzone, 1980). Also, programs that had rules stating that aid be distributed in proportion to the ratio of men and women in the department disregarded the previously noted tendency for women to have better grades.

Consequently, "men who have lower qualifications are given aid" (Roby, 1972) while more qualified women go unfunded. There might be hidden sources of financial support that favor men. Some corporations (usually engineering firms) paid the graduate tuition of their employees. This practice would be of little concern if men and women were equally distributed across occupations. "But since men are more likely to be engineers. . . and women are more likely to be [educators], some men have access to financial aid that some women do not" (Butler & Marzone, 1980, p. 44). Finally, and perhaps most significantly, more women (35%) than men (27%) indicated self-support as their means of financing their educations. That is, they are using their savings, taking loans and working in order to get the training they want. Self-support may be the only option for women who are combining family and/or work responsibilities with part-time studies because, as Roby (1972) pointed out, they are "excluded from competing for practically all federal scholarship and loan aid as well as many university scholarships by the limitation of these prizes to students engaging in full-time study" (p. 124).

There was a general agreement that the awarding of fellowships can have a significant impact on women in professional training (Butler & Marzone, 1980; Hall & Sandler, 1982; Patterson & Sells, 1973; Sandler & Hall, 1986).

Nomination for fellowships can be especially important for graduate women. Researchers have found that while all students who receive fellowships have a lower drop-out rate than non-recipients, the difference in retention rate is far greater for women than for men. Some suggest that receiving a fellowship confirms for women that they are taken seriously as graduate students. (Hall & Sandler, 1982, note 91, p. 17)

Studies on financial aid suggested that women who receive financial assistance are more likely to complete their graduate studies (Butler & Marzone, 1980). Among recipients of Woodrow Wilson Fellowships, receiving a second year of support proved crucial for completing the degree among women (Patterson & Sells, 1973).

The picture is not complete regarding the differences in financial support for men and women. According to Butler and Marzone (1980),

We know something about specific awards (e.g. Woodrow Wilson Fellowships), something about the types of support (e.g. scholarship, research assistantship), and something about the sources of support (e.g., Federal agencies). But we do not have data on dollar value of stipends, on types of courses for male and female teaching assistantships, or on differential effects of types of financial assistance on women and men. (p. 44)

Research vs teaching. In American society teaching is seen as an extension of the female role (Epstein, 1970; Feldman, 1974). Women in graduate education have described barriers in the distribution and organization of teaching and research assignments. They reported that women are more likely to receive teaching than research assistantships. In addition, they often find these

assignments to be organized so that women have less responsible roles and men have greater opportunity to pursue their own research. Women were more likely to serve as assistants to professors in their teaching and research while men were more likely to work independently. This not only puts a damper on autonomy but sends a subtler message that a woman's research interests are deemed of lesser value than a man's (Hall & Sandler, 1982).

Psycho-social constraints

Women graduate and professional students are in a time of transition between being a student and becoming a professional--

--a time when close, informal work with advisors and peers, access to scarce resources (such as fellowships, assistantships, lab assignments, and special project funds), and learning about one's profession are critical, and when family pressures may be severe. (Sandler & Hall, 1986, p. 16)

It is in the realm of socialization into the profession that women are more likely to report problems of being a woman.

The study of gender equity on the Storrs campus of the University of Connecticut cited earlier is a good example of looking beyond the external, quantitative aspects to gender equity in process: "the quality of the lived experience of graduate students as reflected in the formal and informal interactions that constitute the daily academic life of graduate education" (Mellow & Goldsmith, 1988). They argued that despite the very positive and

often dramatic changes during the last 15 to 20 years in which women have become a significantly increased presence in most disciplines as students and faculty, women

still face a host of subtle personal and social barriers that limit their full participation in the academy. Laws and University policies cannot adequately address these barriers, since they stem from our usual ways of relating to one another as women and men. (Mellow & Goldsmith, 1988, p. 4)

Thus, the qualitative section of their study was designed to surface the kinds of issues women and men face from peers and faculty as they pursue their graduate degrees. Students were asked about their feelings of self-esteem, their confidence in themselves as scholars and future professionals, their formal and informal relationships with faculty, and their perceptions of opportunity within their programs. They were asked gender-related questions regarding concerns about women's appearance, perceptions of women in social situations, and hospitality of climate in their programs relative to men and women. They found that

Males and females present different images of themselves. Male graduate students report closer relationships with other graduate students and particularly with faculty. They see themselves and believe they are seen by other faculty as being professionally committed to their studies and future careers. And none of the male graduate students reported being concerned with personal appearances nor the interpretation of interpersonal interactions. The felt world of the female graduate students interviewed in this study is quite distinctively different. They have lower self esteem, even when they have highly evaluated "outcome" measures of their performance, such as research assistantships or high grade point averages. They do not feel as encouraged by faculty as male students report,

and they worry about the overly personal comments made to them, and about the atmosphere that focuses on their status as women instead of their status as scholars and future professionals. (Mellow and Goldsmith, 1988, pp. 22-23)

Self esteem. It is interesting to note that while both men and women are reported to suffer a decline in self esteem when they begin graduate study, there are consistent findings to indicate that across fields, class years and colleges women continue to feel less confident about their ability and preparation to do competent graduate work (Hall & Sandler, 1982). For example, despite evidence (such as high GPA's and high productivity) that women are capable of graduate level performance (Feldman, 1974; Hall & Sandler, 1982; Mellow & Goldsmith, 1988), a significant portion of women reported feelings of inadequacy that are so persistent that they drop out of their graduate studies. In considering these findings, Hall and Sandler (1982) proposed that low self esteem among women is so rampant because "women students are more likely to encounter and to be vulnerable to behaviors that are subtly or overtly discouraging, that single them out because of their sex, or that communicate lower expectations for them than for equally competent men students" (p. 8).

Perceptions of women. Traditional perceptions of women

give rise to beliefs among male faculty and students that women are not as serious professionally, nor as capable as their male peers, nor are they expected to be forceful

leaders, to achieve at the same level or participate in formal and informal professional activities as fully, as actively, or as successfully. (Sandler & Hall, 1986, p.2)

Such perceptions might lead to insidious effects, especially in male dominated fields. These potential effects include patronizing attitudes ("Don't worry your little head about it") and disparagement of women's abilities ("Women are not good in spatial ability") and research interests, especially if their topic is "women" ("Not a serious area of study"). The effects of such attitudes are particularly pervasive in formal and informal student-faculty interactions. These perceptions often get played out in classroom interactions wherein women are called upon less or not at all by faculty on one hand. On the other, women are sometimes viewed as frivolous or overly aggression by male peers. On research projects women reported not being invited into projects or being given less responsible roles. Faculty committees may exclude women for consideration for presentation of papers, assistantships, fellowships, awards, and other prizes (Feldman, 1974; Hall & Sandler, 1982; Mellow & Goldsmith, 1988; Sandler & Hall, 1986; Schwartz & Lever, 1973).

Feldman (1974) challenged these perceptions in a comprehensive study he conducted on the attitudes of faculty and graduate students. He drew on the responses of 32,963 graduate students from 158 institutions and

responses of 60,028 faculty from 303 colleges and universities. On the issue of women's dedication to study he found that male faculty and students perceived women as less dedicated than did women themselves. He concluded that women did not lack motivation or the ability to do high level graduate work but that they did lack self confidence and generally had a less positive self image than did men.

Lack of women faculty. A recurring concern for women in advanced graduate education has been the lack of female faculty to serve as mentors and role models. Women comprise from 10% to over 40% of most graduate and professional programs yet the hiring of women faculty is not in any way proportional to their numbers (Roby, 1972; White, 1972). M. White (1972) described becoming a professional as a socialization process which "consists of learning the roles, the informal values and attitudes, and the expectations which are an important part of real professional life. During this stage of a career, the person not only learns occupational roles and skills, but gains a firmer image of himself as a competent and adequate" (p. 301). Sponsorship or the "protege system" is an important device "for influencing commitment and affecting self-image" (p. 302). Many men are reluctant to sponsor women in this way for various reasons and there are so few women faculty that women often voiced feelings of isolation and professional identity confusion that were

well expressed by the following remarks of anonymous women graduate students.

I had a man advisor. . . .there was only one woman who taught in the graduate school. . . . [T]he whole time I never did work with any women professors. . . .And I began to think, "Where do I fit in the system if there are no women in it, or very few ? (Sandler & Hall, 1986, p. 16)

[T]his [lack of senior women faculty to serve as professors or advisors] has been the single most important deficit of the Ph. D. "experience." I have no sense that my advisor and/or department supports my professional efforts, believes in my ability or cares whether or not I succeed. I would say this feeling is pervasive with female students. (Hall & Sandler, 1982, p. 8)

Relationships. Except for a few fields in which they are in the majority (i.e., Home economics), women typically compete in male-dominated arenas and may experience the negative effects of being a minority (Mellow & Goldsmith, 1988). Minority status may have implications for the nature and quality of relationships women establish with faculty and how they are viewed in their departments. These factors, in turn, may affect professional activities and opportunities during training and in the future. Women may feel pressures around creating images and maintaining relationships that are different for men. For instance, some male faculty are uncomfortable around women because they have difficulty viewing them as potential colleagues, especially those men who come from cultures where women have very circumscribed roles. Others have wives who object to their spending time with women students. In any event, same sex relationships tend to be more comfortable

for either gender. Because women faculty still tend to be scarce or nonexistent in many departments, the effect is that men are more likely to become involved in mentor-protégé relationships. Men are more likely to be invited to share authorships and to accompany faculty on professional trips. They are also more likely to be introduced to professionals outside the department and to infiltrate professional networks. Men are more likely to go out to lunch and dinner, have informal or personal conversations and attend parties with their advisors. Women may receive formal feedback on their academic and research progress but very little of the informal encouragement that flows naturally from more collegial relationships. They reported feeling left out, isolated and discouraged (Feldman, 1974; Hall & Sandler, 1982; Mellow & Goldsmith, 1988; Sandler & Hall, 1986; Schwartz & Lever, 1973; M. White, 1972). According to Hall & Sandler (1982) "women graduate students are more likely to miss out on this crucial kind of encouragement and support, and thus may feel increasingly doubtful about their academic ability and professional potential" (p. 9).

Sexualization of relationships. While some women may feel left out of informal and social relationships with male faculty and peers they may also worry about how such behavior might be perceived within the department. They have recognized that some male faculty and peers see women graduate students as "fair game" sexually and have not

wanted their interactions to be misconstrued or interpreted in a romantic context (Mellow & Goldsmith, 1988). Thus, women often reported feeling self-conscious: friendly behavior was monitored so as not to seem to be flirtatious and there was often concern with physical appearances. If they were to be taken seriously in their departments, women felt they could not afford to look too "nerdy" nor too sexy. Therefore, they were more likely to wear some makeup but take care not to dress in ways that might be considered provocative.

Even with their expressed caution, some women received unwanted sexual attention from their male faculty and colleagues. This may take the form of sexual comments and jokes, unwanted invitations to socialize, and undesired touching to outright sexual harassment (leers, sexual innuendos, bribes and threats for sexual activity) and (Hall & Sandler, 1982; Roby, 1972; Sandler & Hall, 1986).

Unwanted sexual attention has a chilling effect on the learning and working climate. . . . Even women who are not harassed may avoid certain classes or interaction with professors who have a reputation of sexual harassers. . . . refusing sexual demands. . . . may jeopardize a women's academic career or employment. She cannot freely choose to say "yes" or "no" because of unfair evaluations (or grades in the case of graduate students) may be given, and other perquisites withheld. . . . She may feel uncomfortable, embarrassed, and ashamed. . . . yet she may also be fearful of being seen as a "troublemaker" or as "unprofessional" if she reports it. (Sandler & Hall, 1986, p. 10)

Friendships. Women are concerned with personal as well as professional relationships while involved in

professional training. The period of professional graduate education can often be marked by relationship fluctuations. Students may be losing, adding, or modifying relationships in their social networks. They may experience adjustments in existing relationships. A geographic change in order to attend professional school often means leaving friends and/or loved ones behind. Whether graduate training involves relocation or not, students' loyalties may be called into conflict between longer standing peer groups and the newer ones of classmates and other members of their program. Such changes typically necessitate realignments in existing affiliations. Involvement in student life often carries with it challenges in meeting prescriptions of different norm groups, including competition. This in turn may give rise to concerns about limited time for building and cultivating new social relationships, especially when pulled by the demands of other roles. Feldman (1974) noted that researchers have "emphasized the importance of informal interaction among graduate students. Those who see their fellow students informally often help one another in the learning process and tend to be more professionalized" (p. 132).

Marriage and family role conflicts. Concerns in the personal realm may also include concerns about lifestage issues. It would be expected that the greater proportion of women would be in their childbearing years and would therefore have the potential to experience conflicts

regarding dating, marriage, childbearing, and childrearing decisions. These decisions might directly impact on decisions about whether, when and at what pace to engage in professional training.

Marriage is viewed differently for men and women graduate students. Marriage and family for a man

is seen as an advantage--a stabilizing factor and a symbol of maturity; in the case of women graduate students, however, marriage (or even the possibility of marriage) is often seen as a disability. If women are already married, faculty may assume they will have children and then drop out of school or leave their profession. If they have young children, faculty may feel that women students should be at home caring for them, and may advise them that a woman cannot properly combine school and a demanding professional career with a family. (Hall & Sandler, 1982, p. 8)

Marriage seemed to exert differential effects for men and women graduate students. Feldman stated that "for women, marriage has a deleterious effect on the role of student and that the least successful female students are those who attempt to combine the student and spouse role" (p. 125). He saw marriage as complementary to men students because they have someone to care for their needs from domestic to emotional to sexual. Whereas women were more constrained by the spouse role; that is, they perform more domestic (and childcare) tasks (Feldman, 1974; Patterson & Sells, 1973) and were more likely to feel conflicted between devotion to spouse and children and loyalty to friends and the demands of the program. Many women expressed self-conscious gratitude when their

husbands were supportive of their academic efforts. Feldman further suggested that divorced women performed best in their graduate studies because they have abandoned the spouse role. Divorced men's performance suffered most because of withdrawal of wifely support. He stated, "While marriage reduces conflicts for men, it increases them for women" (Feldman, 1974, p. 136).

Patterson & Sells' (1973) study on Woodrow Wilson Fellows indicated that marriage affected attrition rate differentially.

The data show that marriage has no effect on male graduate students: the dropout rate is 45 percent for single men and 44 percent for those married before they received fellowships. Marriage is not so neutral in its impact on women: the attrition rate for married women is 9 percent higher than that for single women. Two may be able to live as cheaply as one, but being the student half of a married couple is worse than being single for the female graduate student. (p. 87)

Marriage might be helpful to women in certain respects. Husbands often contributed to or entirely provided their financial support and, when they supported their wives' educational activities, could alleviate some of the household and/or childcare responsibilities (Feldman, 1974; Schwartz & Lever, 1973). Women with children face not only conflicts between children and schooling (i.e. finding time to study, caring for sick children versus missing classes) but also experience ongoing concerns about childcare arrangements (Roby, 1972; Feldman, 1974; Mellow & Goldsmith, 1988).

Women's training and advancement patterns

Given the barriers that women graduate students report it may not be too surprising to find that as women progress through their professional training programs certain patterns emerge that appear to be gender related: slower rates of completion of their studies, higher rates of attrition, and markedly different training/specialty fields and career paths than their male classmates.

Discontinuity. Gender differences are apparent in the length of time it takes to earn a doctorate. Women are more likely to take longer to complete their degrees. They may "stop out" or attend on a part-time basis for periods, either to work, marry, have children, care for sick family members, etc.

For example, women generally had longer time lapses [in completing the degree] than men, but the gap in registered time was closed when examined field by field. Although the gap also narrowed in total time-to-degree, gender differences remained, possibly influenced by sources of support. (National Research Council, 1987, p.4)

Attrition. In his report to the Carnegie Commission on Higher Education, Feldman wrote that "among students enrolled in doctoral degree programs, sex has been found to be a strong predictor of attainment of this degree. . . . Women admitted to Ph. D. programs were much less likely than their male counterparts to eventually obtain the doctorate" (Feldman, 1974, p. 9). Feldman (1974) looked at patterns of representation of educated women by degree

earned. Out of 33 fields surveyed in 1970-71 he found that at the bachelor's level women received the majority of degrees in 15 of them. At the master's level this had dwindled to 9 and by the doctoral level in no field had women received the bulk of degrees. Even among the highly select recipients of Woodrow Wilson Fellowships who receive financial aid for doctoral studies fewer women than men obtained the doctorate after eight years. Women who received one year of support "had an attrition rate 20 percentage points greater than the men, while women receiving the fellowship for two years had an attrition rate that was . . . 11 percentage points greater than the men" (Butler & Marzone, 1980 p. 44).

Attrition rates have been calculated in different ways. Feldman (1974) computed two attrition ratios: by dividing the percentage of women receiving a bachelor's degree in a field by the women receiving a doctorate and by dividing the percentage of women receiving a master's degree in a field by the percentage of women receiving a doctorate. He found that although the percentages of women receiving bachelor's and master's degrees remained fairly consistent there were marked differences between bachelor's to doctorate and master's to doctorate attrition rates. In the fields of mathematics, computer science, and business women were four times more likely to receive a bachelor's than a doctorate. Even more pronounced was the master's to doctorate attrition ratio. "Every field showed female

attrition from the master's to the doctoral level, with the highest attrition ratios in computer science and business" (Feldman, 1974, p. 9). Butler and Marzone (1980), unable to find data that followed a class from the first year to graduation, opted instead for a single year estimate of attrition. Using combined master's and doctoral data from the Department of Health, Education and Welfare for 1977 they found that women comprised 49% of first year students but only 40% of students enrolled beyond the first year. They assumed that if men and women had a somewhat consistent pattern, the 9 percentage point difference would be the same as an 18% decline for total numbers of women. They noted though that the declines are more acute in the male-dominated fields of agriculture (-38%), mathematics (-36%), theology (-35%), and physical sciences (-32%). Butler and Marzone did a similar calculation for those awarded first-professional degrees and found a 17% attrition rate for women, ranging from the high of a 54% decline in podiatric medicine and a low of 5% in pharmacology (Butler and Marzone, 1980). Whichever way the rates were calculated the message was the same: there were proportionately fewer women in most doctoral and professional programs, especially those that were traditionally male-dominated, and they left these programs without degrees in greater proportions than their male cohorts.

Choice of field. Highly educated women's career choices and patterns look different from men's. Astin (1973), drawing on the survey responses of over 13,000 doctorates, more than 3,000 of whom were women, from three national studies, observed differing career patterns among men and women both prior to and following receipt of the doctoral degree. She looked at choice of field of study, determinants of career choice, types of institutions, and financial support while studying, and types of employment attained (including post doctoral studies), job function, and rewards in terms of status and salary following graduation. Traditionally, women and men have differed in level of educational attainment and in the fields they choose. As undergraduates, about a quarter of women expect to go into teaching while a similar proportion of men expect to go into business or engineering. At the doctoral level these patterns in choice of field were even more pronounced. Astin (1973) collapsed twenty six different fields into four major categories: natural sciences (biological and physical sciences), social sciences (including psychology), arts and humanities, and education. She found that women tended to be somewhat equally distributed among the four but that more the half of men were in the natural sciences and a mere 12% were in the arts and humanities. Applying Astin's same four categories to 1987 data revealed that, though there have been certain shifts, the overall pattern was much the same some

seventeen years later. Fifty one percent of men were still receiving doctorates in the natural sciences, but there had been an increase in the number of the women to 34% (up from 24% in 1970); 16% of men (down from 18%) and 20% of women (down from 23%) were earning social science doctorates; 18% of men (up from 12%) and 17% (down from 21%) of women were getting doctorates in the humanities; and 14% of men (down from 19%) and 29% of women (down from 31%) were acquiring education doctorates (Astin, 1973; adapted from National Research Council, 1987). Even with more women gravitating to the natural sciences and some filtering of men into the social sciences and humanities, there is still a clear demarcation in choice of field by gender: men still cluster in the natural sciences and women still aggregate in education and the social sciences. Women physicians have tended to specialize in psychiatry, pediatrics, and anesthesiology and "have in the past avoided others, such as surgery and radiology" (Cartwright, 1979, p. 441). It is unclear whether these "differences in choice of field are attributable to differences in women's aptitudes and interests or societal expectations that constitute educational and occupational barriers against women, and the psychological consequences of these expectations" (Astin, 1973, p. 143). The case may be that societal expectations differentially influence "aptitudes and interests" by gender.

Although most of the studies cited focus on the negative aspects, one might speculate that engaging in the professional level graduate student role carries benefits as well as costs. The stage of preparation and training prior to entering the professions might provide many opportunities for women to experience opportunities for life enrichment, achievement, and fulfillment. For instance, acceptance into a graduate program or professional school might bestow status and high esteem on women entrants as well as the pride of excelling as a minority. They may find the graduate training experience financially freeing in that it excuses them from the structure of the workaday world entirely or, for those with teaching or research assistantships, it might provide some flexibility in structured work hours while gaining professional experience. If they are the recipients of fellowships or grants they may even experience complete freedom from work and financial worry. Women might find mentors who endorse them and claim them (in the anthropological sense) into the program and the profession. The training years might provide many with the opportunity to make new and enduring personal and professional friendships with peers who share similar goals and experiences. Similarly, women students who fall in love, marry, and/or have children might find a welcome restructuring of their priorities as well as sources of joy, security, and support.

Career patterns. Whether more women experience professional training as primarily "strive" or "thrive" is as yet unknown. What is known is that after training women professionals often express satisfaction with their lives, even though their career paths are very different from their male colleagues and despite their reported conflicts and pressures.

Employment. Female and male Ph.D.'s are most frequently hired by educational institutions, but a higher percentage of women than men enter educational settings. The second largest category of employers of men is industry/business but "all other" and "unknown" are the second highest category for women (Butler and Marzone, 1980, pp. 56-7). Women are more likely than men to be in teaching positions, they are equally likely to be employed in research and scholarly writing, but are less likely to hold administrative or management positions. An equal but small percentage (3% to 4%) of both men and women are employed in the nonprofit sector (Astin, 1973). Not surprisingly, the pattern of differences in choice of specialty field observed between men and women during training is in evidence upon leaving school.

Women physicians and dentists practice in various locations and settings: hospitals, universities, or private practice and face an additional issue of the organization of practice--solo, group or prepaid (Cartwright, 1979). Cartwright (1978) noted that women

physicians follow "distinctively female lines--more part-time workers, more salaried workers, greater discontinuity in career, preferences for specific specialties, and less professional achievements in general" (p. 185).

Practice patterns among men and women lawyers also show gender differences. Women and men lawyers tend to be equally distributed in the first positions they take whether in small (under four practitioners) or larger (more than fifteen practitioners) firms and the federal government. "However, men far exceeded women in obtaining jobs with firms in the 5 to 30-man category, and women had a substantial edge over men in state and local government" (J. White, 1972, p. 279). As they become established in their careers job migrations are noted in which women gravitate into government positions, while men move out. Men are increasingly represented in medium-sized firms, while there is virtually no change in the proportion of women in that size firm. J. White (1972) held that these "statistics are consistent with two commonly held notions: (1) men often use the government as a stepping-stone to private practice; and (2) a large part of all women lawyers (about one third) find long-term employment in government (p. 279)." Although both men and women reported performing a variety of work the proportion of females engaged in trusts and estates (60%), real estate (51%), and domestic relations (50%) exceeds males. Women were least likely to

be found practicing labor (7%), criminal (28%), and tax law (31%). Women did indicate active trial practices, though to a somewhat lesser extent than men (46% for women versus 58% for men) (J. White, 1972). Women in all professions are more likely than men to work on a part-time basis.

Salary. Women with advanced degrees earn less money than men with similar educational attainments (Butler & Marzone, 1980). Although new degree holders receive comparable pay upon entering the profession, men soon earn significantly more (Butler & Marzone, 1980; Gellesse, 1985; Simon, Clark & Galway, 1975). Astin (1973) observed,

Women are more often in academic careers than nonacademic ones, and they are more likely to be in teaching than administration or research. Women also constitute a very small proportion of physical scientists, who have the best-paid careers, and a disproportionately large number of those in the humanities and the arts, which are the lowest paying fields. (p. 152)

Indeed, when differentials between men and women doctorates have been calculated it has been found that though parity is greatest in education, women still earn only 83% of what men in education do. Women in the physical sciences fare the worst, earning 75% of what men in the same fields do. Income differentials among lawyers are in evidence along job type and gender lines. J. White (1972) stated,

Our data show that the income differential between the men and the women indeed varied from job to job. Yet they also show that the average present income of the men exceeded that of the women by substantial margins in almost all of the possible combinations of year of graduation and

job type. . . . If the women in the government jobs are removed from the sample, the aggregate female income decreases and the differential between [the females] and the males grows larger. (p. 288)

No current data were found comparing men and women physicians' and dentists' incomes.

Unemployment. Women have higher rates of unemployment than men in all professional fields. While less than 1% of women doctorates in the physical sciences do not work, the situation is less sanguine for other women professionals. Between 8% and 10% of women doctorates in the humanities reported not working, a figure which is shared by women physicians. An even larger percentage of women lawyers, about 13%, were not employed. (Butler & Marzone, 1980; Cartwright, 1970; J. White, 1972). These statistics become more meaningful in light of other figures showing that on the average less than 1% of men in each of these professions are not working. Though very few of the professional women who are not working reported dropping out because of marriage, up to 25% reported not working due to having children. Most of these intended to return to practice.

The preceding discussions suggest that men and women have qualitatively different professional training experiences and markedly different career paths. Despite these differences most women professionals expressed satisfaction with their careers and their lives (Amatea & Fong, 1989; Cartwright, 1978; 1979; 1987; Gilbert, et. al.,

1981; Poloma, 1972; Poloma & Garland, 1971), even when role conflict was in evidence. However, it is not known whether professionals in training experience similar role satisfactions or not. The roles of spouse and, to a lesser degree, parent have been examined for their effect on performance and continuity in the student role, but not much emphasis has been given to the student role as a social role that impacts other life roles and general well-being.

Although the student role and the work role are clearly not one and the same, they do bear some similarities. The student role is preparatory to the professional work role and some of the knowledge and practical application in the field will overlap. Therefore, an examination of the extensive literature on women's work and family roles may yield some insights as well as conceptualizations and methodologies that may be applicable in attempting to understand how the student role, alone and combination with other life roles, affects women's well-being.

Perspectives on Multiple Role Research

The literature on women's work and family roles suggests that expectation of work (Holahan & Gilbert, 1979a; Sekaran, 1985), perceived work environment quality (Barnett & Baruch, 1985; Baruch and Barnwtt, 1986; Holahan & Gilbert, 1979b; Stewart & Malley, 1987), nature of non-work role burdens (Barnett, 1982; Gilbert & Hanson, 1983;

Nevill, 1984; Verbrugge, 1987), and resources for coping (Amatea & Cross, 1981; Amatea & Fong, 1987; Gibbs, 1984; Gilbert, Holahan & Manning, 1981; Hall, 1972; Harrison & Minor, 1982; Pearlin & Schooler, 1978; Skinner, 1980) impact on a person's health risk. However, it is unclear whether these factors are in operation for student and family roles, because they have not been applied to women in advanced professional training.

Health Benefits of the Work Role

A significant proportion of the findings from multiple role research studies indicate that women who work may have no worse and perhaps even better physical and mental health than those who do not (Coleman et al., 1987; Cooke & Rousseau, 1984; Thoits, 1987; Verbrugge, 1983a; 1983b; 1987). Verbrugge (1983a), for example, investigated the relationship between multiple role holders and physical health status in a large scale epidemiological study of adults in Detroit. She found that employment, marriage and parenthood were associated with good health for both men and women, "with employment having the strongest and parenthood the weakest effects" (p. 16). She further found that "each role (employment, marriage, parenthood) contributes to good health, but combining them has no particularly pernicious or salutary effects" (p. 26). In another research effort, Thoits (1987) analyzed the results of twelve studies which compared working wives with

housewives on measures of depression and distress and found that

five report greater distress among housewives than among employed wives. . . , but seven studies report no differences between these two groups of women. When the presence, number, and/or ages of children are controlled, again mixed findings are obtained. Four studies report greater distress among housewives compared to employed wives, while three report no differences between these two groups. (p. 15)

Coleman and associates (1987) also investigated the relationship between role occupancy and well-being among mid-life men and women. They examined the responses of 389 women and 293 men aged 40 to 59 from a national sample of 2,264 health survey respondents and concluded that

well-being was closely associated, among our national probability sample, with participation in the paid labor market. . . . Physical health differed by role configurations for both women and men. Women who were single nonworking parents were in the poorest health, while working women without children and the women involved in three roles were in better physical health.

Psychological anxiety also varied by role configuration. . . . Single nonworking mothers had the most anxiety and the married working women without children had the least. (p. 148)

Verbrugge (1987) summed up research in this area by stating, that "in general, the more life roles one occupies, the better one's health is (p. 154)."

Although generally optimistic, the findings of multiple role and health and well-being studies were varied. Sometimes multiple role holders looked more, equally or less vulnerable than their nonworking women or working male comparison groups. The reason for some of

these varied results were methodological: different questions were asked, different populations queried, and different instruments were employed. However, some of the inconsistency was historical, an artifact of changing conceptualizations of core gender assumptions regarding the nature of sex roles. In the following section these changing theoretical perspectives are reviewed.

Core Gender Assumptions

As economic and social trends have shifted so have conceptualizations of role appropriate behavior for men and women. Early conceptualizations were derived from biologically-based models that emphatically delineated the proper domains for men and women. Research based on such models viewed working women, whether married or not, as deviant and their findings supported that view. As economic conditions dictated the necessity for more and more women to enter the workforce, the focus of research shifted. Working women were seen less as "biological" deviants and more as victims of culture. Since women had to enter "a man's world," concerns arose that they would be depleted by burdensome role demands: their natural and primary roles of wife, mother, and nurturer and their assumed, "unnaturally" acquired role of wage earner in combination would overwhelm them. A spate of studies found women overloaded, conflicted, and strained by their proliferating roles. Barnett and Baruch (1987b) observed,

in contrast to other stress-related research areas, most literature on negative effects of multiple role involvement such as role strain and role conflict, has centered on women. How can we account for this phenomenon? Theoretical formulations regarding men's lives assume the centrality of the paid employee role and relegate non-workplace roles to positions of minor importance. Because the roles of husband and father are viewed as subordinate to the employee role and traditionally have involved few obligations, issues of conflict and strain are rarely addressed. Theories of women's lives, in contrast, have assumed both the primacy of and major commitment to non-workplace roles. Involvement in the paid employee role, which also requires commitment, is assumed to entail strain and conflict. . . . [W]ith the rapid entrance into the paid labor force of women who already occupied their primary roles, that is, women who were married and had children, researchers sought to examine the presumed deleterious effects of women's multiple role involvement. Thus expectation about core roles have generated strikingly different expectations about the effects of role occupancy for men and women. (pp. 124-125)

Multiple role research changed direction when theorists proposed that sex roles were culturally mandated rather than biologically-based. Studies were then designed which conceded that combining work and family roles might be draining but not inevitably so; they could be enriching as well. Studies based on these later expansion models predicted individual differences in personal functioning as a result of role involvement and found it. The acceptance of the notion of individual differences in how combinations of roles were experienced led to an era which favored a stress-health outcome model in which individual psychological constructions of the quality of one's roles had explanatory power. The following discussion more fully

traces the evolution of multiple role research noting the shifts in conceptualization and methodology that accompanied the re-thinking of core gender assumptions.

The Deviance Model

In her review of the literature on the vocational development of professional women, Levitt (1971) reported that the research findings of the 1960's discussed women as either "career-oriented" or "marriage-oriented." In that review only one investigator used a third label, "compromise-orientation." It is unclear whether this tag was intended to describe those women who were neither committed to marriage nor career, or were clearly committed to both. Levitt cited as a problem in the study of career orientations of college women the "not uncommon practice of eliminating from samples young women who expressed a strong interest in both marriage and a career" (p. 381). An examination of the literature prior to the late 70's and 80's revealed that college women who chose to be in any kind of career, especially an atypical or pioneer one (i.e. male dominated), were thought to exhibit deviant social and psychological profiles (Almquist & Angrist, 1970; Marshall & Witjing, 1980; Yogeve, 1983). They were thought to violate sex stereotypes, lack femininity, and exhibit more masculine traits. Regarding the latter, these women were viewed as were more aggressive and achievement-oriented. They were seen as having more persistence and drive and were more dominant. They were

thought to have personality disturbances because they experienced more psychological role conflict and seemed more dissatisfied with their lives. It was assumed that they were be less likely to enjoy child care or domestic activities. Within this early perspective "women had only two options: either to have a family and be feminine or to have a career and be sexless" (Yogev, 1983, p. 220).

During the transitional decade of the seventies, however, such social phenomena as the human potential movement and the women's movement reshaped notions of sex roles such that perceptions about women and behaviors in the career arena altered dramatically. In analyzing the employment and educational histories of 498 women in the ten year period following college graduation in 1968, for example, Betz (1984) found that only 1.4% were fulltime homemakers and an overwhelming 79% combined both careers and families. Of these, some 28.5% were employed in nontraditional or "pioneer" occupations. Thus, a life role combination that was once considered deviant became the norm and the "deviance hypothesis" to describe college-educated career women became obsolete and inappropriate. Researchers began seeking alternative hypotheses to explain the growing phenomenon of women choosing to work, often in male-dominated fields, while also participating in family roles.

Before new hypotheses could be formulated, however, investigators of the 70s and 80s first found it necessary

to dismantle the deviance model itself. Yogeve (1983), noted many conceptual and methodological problems with earlier "deviance" modeled research. She suggested that research showing career women in a favorable light was in conflict with the dominant thinking of the times. Such studies may have either received little attention or simply never have gotten published. She pointed to difficulties in overdependence on populations of undergraduate women. She noted inconsistent types of research measures, particularly, difficulties with the dimensionality of sex role scales. She drily observed the milieu in which "feminine" attributes implied psychopathology while "masculine" attributes were considered representative of adult mental health. One attempt at rectifying these problems was to continue to describe women in terms of sex roles but to revise the measures from unidimensional to multidimensional. Typical of this pursuit was a study done by Marshal & Witjing (1980) who described some 405 upper division undergraduate women at a large urban university using the Bem Sex Role Inventory (BSRI) along with measures of achievement motivation and career orientation to determine their expected levels of career centeredness and career commitment. Although their findings tended to confirm the deviance model in that women who claimed greatest satisfaction from career pursuits were those who scored higher in masculinity on the BSRI and showed higher need for achievement, this study did contribute a slight

methodological advance in instrumentation by using the multidimensional BSRI.

Another direction was to study women actually participating in rather than anticipating the roles being studied. Birnbaum (1975) eschewed the typical undergraduate sample when she described self esteem and adult life patterns among a sample of gifted women fifteen to twenty five years after college graduation. The sample consisted of 29 homemaker (e.g. non-working, married with children), 25 married professionals, and 27 single professionals. She found that, as predicted, self-esteem was higher among the homemakers in their younger years but as the women reached midlife the career-oriented women had higher self esteem and generally felt more satisfied with their lives. Birnbaum's work suggested that, in contradistinction to earlier stereotypes, professional women, whether married or single, found a "vital source of personal identity and satisfaction" (p. 418) in their work that enhanced their self worth and which could be a significant factor in maintaining self-esteem later in life.

The possibility that choosing a career role might actually enhance women's lives began to replace the deviance explanation for women's participation in the professions. Hoffman (1973) admitted that her seminal research on working mothers was initiated "in the hope of documenting the ill effects of maternal employment" (p.

212). Instead, she found no significant differences between the children of working and non-working mothers. In fact, very few negative effects were found and many positive effects were found, especially on the self-esteem, academic and career achievements of daughters (pp. 211-212). She found, contrary to the deviance hypothesis, that "balancing a career commitment with family and affective concerns has resulted for many [women] in a richer and more fulfilling life" (p. 216) and she predicted that combining family and career roles would continue to gain acceptance. Almqvist & Angrist (1970) put forth the possibility that the "unconventional chooser is not so much a renegade as she is the product of additional enriching experiences which lead to a less stereotyped and broader conception of the female role (243)." Thus, research that at first seemed designed to castigate and brand as deviant those highly educated women who chose to enter male dominated fields softened when empirical evidence was too mixed to support the view.

Scarcity Models

As changes in economic and social realities converged, and the trend for women to combine career and family commitments continued and strengthened; the speculation about career women's deviance became less pronounced. Traditional gender assumptions still prevailed; like manhood and work status, womanhood and motherhood were still synonymous. Work was still essential to a man's

identity but was extraneous to a woman's. Her "real calling," nurturing her husband and children. Now, however, these assumptions were argued from sociological and cultural rather than biological perspectives. A new area of concern emerged: the difficulties women face in managing all their multiple commitments with their attendant conflicts, stresses and strains.

Many women did seem to get caught up in a "superwoman" spiral, as Hoffman (1973) vividly described:

On the other hand we were harassed! Not content with being professionals and mothers, we wanted to be gourmet cooks, hostesses, supportive wives, and femme fatales. The major problem reported by the professional woman in several studies has been the management of the household. The difficulty of finding a housekeeper really was the single most predominant complaint of the women Ph. D.'s studied by Astin . . . And our husbands may have helped more than the husbands of the nonworking women, but by no means was there equal responsibility for housework and childcare (p. 215)

Researchers then began to focus their attention on the cost of "doing it all." They presumed that women experiencing role conflicts were stressed and that stress inevitably led to negative consequences. These studies were based on a model of role theory suggested by Goode (1960), and others (Coser, 1974; Slater, 1963), which proposed that individuals have a finite amount of energy with which to meet the cumulative demands that each additional role carries. These theorists concluded that when an individual's total number of role obligations were overly demanding, he or she would not have enough energy to

adequately fulfill them all, and uncomfortable compromises would necessarily follow. The more roles one accumulated the greater the possibility of confronting conflicting obligations and exhausting one's supply of energy. Thereby working women were more likely to experience role strain and psychological distress. One approach to the study of employed women was to emphasize the negative aspects of combining roles and the inevitability of overload, conflict, and stress in so doing. Studies done in this vein sought first to establish that multiple role women inevitably experienced conflict which, in turn, implied stress. They went on to "suggest" causality by enumerating antecedent stressors correlated with those negative outcomes. Possible causal variables examined were marital status (Nevill & Damico, 1975), marital satisfaction/adjustment (Staines et al., 1978), husband's support of work/career (Beutell & Greenhaus, 1982; Holahan & Gilbert, 1979a; Keith & Schafer, 1980; Poloma, 1972; Van Meter & Agronow, 1982), parental status (Gilbert et al., 1981; Holahan & Gilbert, 1979a; Keith & Schafer, 1980; Van Meter & Agronow, 1982), number and ages of children in the home (Gilbert & Hanson, 1983; Staines et al., 1978), parental responsibilities (Gilbert & Hanson, 1983; Nevill & Damico, 1975), role satisfaction (Holahan & Gilbert, 1979a) life stage (Keith & Schafer, 1980; Staines, et al., 1978), educational level (Staines, et. al., 1978; Yorburg & Arafat, 1975), professional versus job status in women

(Holahan & Gilbert, 1979b; Nevill, 1984; Nevill & Damico, 1975), career commitment (Amatea, Cross, Clark, & Bobby, 1986) time demands at work and at home (Keith & Schafer, 1980; Nevill & Damico, 1975), self esteem (Holahan & Gilbert 1979a), and mutuality in role definitions and expectations (Yorburg & Arafat, 1975). The typical design was to select antecedent stressors, comparing two at a time so that indices of role strain or conflict could be determined. Often helpful solutions or strategies for coping with role-related stress were suggested for those attempting to assist the beleaguered.

Typical of this early problem-focused orientation was Johnson & Johnson's (1976) treatise on role strain and career women. They argued that the "relatively small, but important contingent of contemporary American women--those who are married and simultaneously aspire toward or occupy high-commitment career roles (p. 15), "face problems and psychological conflicts inherent in role proliferation, the "coterminous, continuous and additive combination of two (or more) disparate high-commitment activities" (p. 16). They traced sociological, psychological, and psychoanalytical theories as well as research on sex and gender differences that indicate that normative and conventional expectations make women disproportionately both more dependent and more responsible for caretaking and housekeeping in their family roles. These pressures can cause such women to feel "inexorable simultaneous concern

about performance both at home and on the job" (p. 21). They concluded that high career committed women are entrapped by the pressures of role proliferation which make them psychologically vulnerable to the development of strain. This pessimistic view even extended to their proposed resolutions to the problem, some six methods of coping, five of which were only effective for men (given the differing socialization processes for the sexes). These five include (a) establishment of a hierarchy of importance, (b) insulation of some roles from observability, (c) mutual support from status peers, (d) compartmentalization of roles, and (e) delegation of some roles. The sixth technique, elimination or reduction in commitment to roles (i.e. work role) was, according to the authors, the only technique which held promise of relief for these harried women. Thus, it appears, in their view, women could only win by losing.

Poloma (1972) shared Johnson & Johnson's sentiments. She interviewed 53 couples in which the wives practiced law or medicine or taught college. Her research focus assumed role conflict and sought to answer how women managed professional and family role conflicts. She defined role conflict as "a logical outcome of a certain status inconsistency in the position of a highly educated married women in a male dominated society" (p. 187). That most of the women in this sample had not internalized the "inevitable" and "considerable" strain arising from the

intersection of "professional and home roles" was conceived as the result of very intelligent women who skillfully employed the one or more "tension management techniques:" (a) favorable definition of the situation, (b) establishment of a salient role in the particular role constellation, (c) compartmentalization, and (d) compromise (p. 198). The fourth technique appeared to be the most frequently chosen, especially among mothers, to "create a position for herself which is psychologically comfortable" (p. 193). In this method "the wife mak[es] the necessary adjustments to manage role strain" (p. 193). Some of the reported adjustments included organizing situations so the family's needs could be met, reducing earned income so as not to surpass husband's breadwinning efforts, and limiting career aspirations (i.e. working part-time; leaving the career temporarily or permanently).

Other studies which seemed to support this perspective focused on the complicated interaction of women's work and marriage and its psychological implications, most notably, depression. Nevill & Damico (1975) found that just being married increased role strain for women and Staines and his associates (1978) found that working wives had significantly lower marital adjustment. The latter found, however, that role load "as an intervening mechanism linking wives' employment status and marital adjustment [was] unsound only among wives who feel overburdened by their responsibilities do those who work

report lower adjustment in their marriages" (p. 117). Keith & Schafer (1980) investigated whether the amount of time spent at work affected the reported levels of depression of 135 two-job couples. Men and women who spent more time at work had higher strain than expected and both surprisingly reported low rates of feeling bothered by family responsibilities intruding upon their work. However, depression in men tended to be related to the amount of time their wives worked outside the home and husbands' involvement in "feminine" household tasks. Women's depression was tied to their perceptions of their financial situation relative to others and their evaluations of their husbands' adequacy as a provider. They suggested that allegiance to traditional views of sex roles was costly for both genders.

Though researchers who conducted studies based on scarcity models intended to sympathize with and promote better methods of coping for women choosing to combine professional careers with family roles they fell short of their goals in several ways. First, their preoccupation with negative outcomes precluded the possibility of finding positive results. Women who maintained high levels of involvements in their various roles or were not pathologically depressed were shrugged off as skillful copers. Secondly, the designs were usually simple correlations that told little about the varying contributions the identified stressor antecedents

provided. Third, except in a few cases (i.e. Staines et al., 1978) role conflict (or strain or overload) was viewed as an end result, leaving for the reader to infer the mental and physical health consequences that might follow from it. Finally, the findings of the studies were ambiguous. Larger proportions of women reported satisfactions with their role choices even when they also reported conflicts and strains than did those who felt overwhelmed and unhappy with their choices.

Expansion Models

With such contradictory results appearing in the literature, the negative conceptualizations of such theorists as Goode and Johnson & Johnson did not long go unchallenged. Coser and Rokoff (1971) were among the first to challenge them. They articulated the idea of socio-cultural factors that maintained normative cultural mandates. These mandated limit women's opportunities and entry into high prestige careers. First, they discussed in detail the cultural mandate that decrees that women and men are expected to maintain total allegiance to their separate role domains of wife and mother or breadwinner and status provider. They cited examples from movies, magazines, and television that reinforce these stereotypes. "Career and family life are presented as mutually exclusive alternatives for women. It would seem as if modern women are not capable, as modern men are, to segment their various roles and statuses" (p. 542). Yet, women with

families do work. Women represent about half of the college educated people, but they are usually employed in the lower status occupations in this country. Higher prestige professional positions actually offer more scheduling flexibility that would help women to dovetail their work and family responsibilities. "Yet women are more likely to be found in occupations that demand a full day's involvement and where there is little flexibility for the manipulation of time, and are less likely to be in occupations in which they could follow a flexible schedule" (p. 543). The reason the authors pointed to was the meaningfulness of the work--

. . . it is not that women are not expected to work; it is only that they are not expected to be committed to their work through their individual control over it; if they did, they would then subvert the cultural mandate, thereby allegedly causing disruption in the family system, and would risk disrupting the occupational system as well. (p. 545)

The maintenance of power and legitimacy of status were the issues behind the concern of total allegiance to prescribed roles. They operated in subtle and not so subtle attitudes and policies in the workplace. The result was that "opportunities are. . . structured [so] that women will be less likely to be trained, and if trained, less likely to be employed in high-status positions, than men with equal potentialities for achievement" (p. 551).

This groundbreaking treatise resulted in new directions in theory and research. Theorists moved away

from the "greedy institutions" model of the scarcity hypothesis to more expansive views of social role interaction. Such theorists as Sieber (1974) and then Marks (1977) offered more optimistic interpretations of multiple role involvements and numerous studies were formulated to examine possible benefits that might be derived from them.

Sieber (1974) argued for a more balanced view of multiple role participation. While not denying that role conflict, overload, and stress do occur, he maintained that seeking only the dysfunctional aspects of multiple roles could result in the failure to acknowledge and seek the gratifying benefits that therein lie. He cited and described four positive outcomes or rewards of role accumulation: (a) role privileges, (b) overall status security by means of buffer roles against failure in instrumental or expressive roles, (c) resources for status enhancement and role performance, and (d) enrichment of the personality and ego gratification. He proposed that role accumulation could actually be more gratifying than distressful, and that role participation is sociologically normal and psychologically desirable (p. 577). He even suggested that individual stress and social unrest might be due to blocked opportunities for participation in a variety of roles for certain status groups, such as blacks and women. He proposed that the pursuit of a full range of roles might facilitate mental health, social stability, and

orderly social change. Specifically in regard to working mothers, he suggested that despite the likelihood of role conflict, women who seek wider role repertoires stand to increase their resources, privileges, and sense of personal worth.

Marks (1977) challenged the negativity of Goode's formulation regarding the inevitability of role strain among persons with multiple role involvements by disputing the concept of energy as being finite and consumable. He noted that for every empirical study there

is evidence of a minority of each sample who do not seem to be experiencing the effects of scarce personal resources. . .who do not appear to be struggling with role conflicts or suffering from role strain or over load. . . In short, if energy is seemingly abundant for some people, then we can no longer appeal to some universally held condition or natural fact to account for those instances in which it is found to be scarce. (p. 925)

He argued that physiology did not support the notion of finite energy. He cited the adenosine triphosphate (ATP) cycle to support his position. ATP is converted from glucose and then consumed when muscle fibers contract. The body stimulates the production of ATP from glucose only through the consumption of ATP in activity. To Marks, the "process of production of human energy is inseparably a part of the consumption of energy" (pp.925-6). He applied physiological concepts to social roles and theorized that an expansion approach to human energy would allow for the possibility that "some roles may be performed without any

net energy loss at all; they may even create energy for use in that role or in other role performances" (p. 926). In Marks' model humans have "abundant and perpetually renewing resources" (p. 927) with which to carry out their activities. Rather than mechanically releasing energy to those who make demands upon them, humans construct their response to others by deciding to give or withhold the flow of energy in any particular role. Energy levels vary according to the level of commitment to each role and the tendency is for over-committed interests to begin to encroach on the energy being produced for under-committed interests. He suggested that the tendency in Western society is to overperform in occupational roles and underperform in all others. Thus, being too tired or too busy becomes a socially sanctioned excuse for being under-committed in non-work roles. For example, a physician at the end of a long day rebounds with a burst of energy for an emergency at the hospital. After a similar day this same physician may be too exhausted to attend a family function. "On the other hand, for the traditional housewife, whose daily activities are not even reckoned culturally as real work, there is little power of appeal to any excuses (p. 933)." Thus, he argued that the expression of lack of energy is not due to lack of physical energy resulting from distribution of finite resources to greedy role demands, but rather issues from a series of over- and under-commitments to varying roles.

The works of Sieber and Marks were the impetus for an explosion of research that challenged previous assumptions about the difficulties involved in role combination. After these theories appeared the effects of multiple role involvements were viewed as less clear cut than previously thought (Stewart & Malley, 1987). Studies began appearing which seemed to contradict Goode's position on the inevitability of role strain and to reinforce Sieber and Marks' position that participating in multiple roles can be rewarding as well as distressing. For instance, Verbrugge (1983a) stated,

Multiple roles . . . have no special effects on health, either negative or positive. Thus, people with both job and family roles enjoy the health benefits of each role (main effects) and incur no special health disadvantage or benefit (interaction effect) for being so busy. (p. 16)

Barnett (1982) found in a study of mothers of preschool age children that there were no differences in reported levels of self esteem and satisfaction between those mothers of preschool age children who were employed and those who were nonemployed. Skinner (1980), in a study of dual career couples, found that though dual career couples reported stress they described their lifestyle in positive terms. Similarly, Cartwright (1978; 1987) found that 88% of the women physicians sampled in her study reported overall satisfaction with their lives even when role conflict was also reported. To further add to the puzzle, Thoits (1987)

analyzed twelve empirical studies which compared housewives and employed wives. She found that

Five report greater distress among housewives than among employed wives . . . , but seven studies report no differences between these two groups of women. When the presence, number, and/or ages of children are controlled, again mixed findings are obtained. Four studies report greater distress among housewives compared to employed wives, while three report no differences between these two groups. (p. 15)

Some investigators have promoted the view that multiple role involvements are not only not deleterious but actually positive or even therapeutic in their effect. Some researchers suggested that multiple roles mitigated the stress of either full-time homemaking (Lewis & Cooper, 1983) or work. Stewart & Salt (1981) showed that young women with multiple role involvements showed fewer physical and psychological stress responses than their counterparts did when faced with life change. Verbrugge (1983b) found health benefits accrued to the married and the employed.

We found that marriage offers a very supportive milieu in which young women can add other roles and enjoy high rewards of happiness and good health. By contrast, previously married and never married women are more pressured and dissatisfied, and they do not always benefit by having job or children. . . . Thus, the Detroit data show that multiple roles are in fact healthful in the context of marriage. (p. 3)

In a later study focusing on health and gender at midlife, Verbrugge (1987) found that well-being for both men and women was closely associated with participation in the paid labor force as part of their multiple role configurations. More specifically, she stated that "work in combination

with parenting and marriage . . . add meaning to adulthood and help promote physical and psychological well-being" (p. 153). Holahan & Gilbert (1979b) found, contrary to their own predictions, that higher levels of role conflict were reported by employed women who were least committed to their work. They saw themselves having lower levels of commitment to work they viewed as a job than did those who described their employment as a career. Thus, higher career-committed women reported feeling better about their lives. It became apparent through the work of later investigators that certain roles in combination altered predicted outcomes. Cooke & Rousseau (1984) observed that family roles could serve as a source of distress while simultaneously (and paradoxically) seeming also to reduce the effects of work stressors. Kandel and her associates (1985) further noted that "participation in multiple roles modifie[d] the impact on depression generated by particular roles" (p. 129). Specifically, marital roles appeared to buffer the effects of work while parenthood seemed to exacerbate occupational stress.

Of particular concern is the issue of working mothers, especially those of infants and preschool age children. Studies which indicate that women with young children, whether employed or not, tend to experience greater distress than those without, have some qualified support. These results are chiefly apparent when economic necessity is the impetus for the decision to work and a high value is

placed on parenting (Gordon & Kammeyer, 1980). These results were consistent in studies in which wives were engaged in low parity work (Beckman, 1978). When families were large and/or childcare demands were high (Nye, 1963; Verbrugge, 1987) and when women were parenting alone (Verbrugge, 1987) higher stress levels were noted. When husbands did not support their wives' decision to work or wives feel their husbands are dissatisfied with their investment in childcaring duties (Barnett & Baruch, 1985) higher levels of stress were apparent. On the other hand, Barnett (1982) conducted a study of mothers of preschool age children and found that "involvement in a variety of roles does not necessarily diminish well-being. In fact, the stronger the commitment to work among employed women, the higher they were in well-being. . . . the women in this study were at the peak of involvement in childcare; despite this, employment did not appear to reduce satisfaction nor result in self-doubt" (p. 177). In a later study investigating distribution of childcaring in couples, Barnett & Baruch (1987a) found that both "the employed and the nonemployed women carried the major portion of childcare, yet neither seemed to experience the situation as burdensome. Perhaps an expectation of inequity means adaptation to it" (p. 101).

The controversy about the potential costs and rewards of multiple role participation has continued unabated to the present (Schwartz, 1989). These debates suggest that

both scarcity and expansion models, while reflecting gender role assumptions of the time and channeling research efforts in new directions, no longer offer an entirely adequate focus for women's current role concerns.

In summary, studies done from the perspective of an expansion model addressed many of the flaws of the scarcity model. First, they opened the door for considering positive as well as negative outcomes from one's multiple role involvements. Second, they were more likely to employ more sophisticated multiple regression techniques that calculated the amount of variance antecedent stressors contributed to outcomes. Third, outcomes were more likely to be clearly health-related (e.g., depression, stress symptoms, etc.) rather than role-based (e.g., role conflict, role strain, and/or role overload). However, for all the positives, the results were sometimes as difficult to interpret as scarcity model studies.

Although expansion model researchers conducted studies which showed that working women were no worse and sometimes in seemingly better shape than their homemaker counterparts, puzzles still remained. Some family relationships seemed to buffer the stresses of work and others to exacerbate them. Work seemed to relieve depression for some (former) full-time homemakers while heightening role conflict for others. Thoits (1987) suggested that some of the discrepancies in the findings might have been due to historical changes. For example,

the number of women in the workforce, significant changes in gender-role attitudes, and differing marital patterns (i.e. traditional, transitional, and parallel marriages) would clearly change the direction of findings. In addition, many of the same problems which plagued the scarcity model were still in evidence: varying conceptualizations, diverging populations, differing research questions, and inconsistent measures. Another obvious problem in these studies was that role occupancy was too gross a measure for meaningful interpretation. Motivations to work vary widely: it may be an economic necessity, an escape from drudgery, an expression of a need for achievement, a source of identity, and a statement of autonomy. Similarly, not all marriages are created equal: some are sources of great solace and support filled with love and stability; some are sources of turmoil, confusion, and animosity; and, some are arrangements of convenience, more form than substance. Similarly, spouses can have significantly varying responses to each others' work roles. Whether a woman sees her husband as an adequate provider may influence whether she sees her own work as a burden thrust upon her or an involvement that she may modulate or rescind as she sees fit. A husband may view his wife's work as a welcome sharing of economic responsibility, a part of her need to grow and achieve, or as a threat to his masculinity and thereby to their relationship. Both may view work as a mutual commitment

necessary for personal identification and economic survival. Redistribution of housework and childcare responsibilities necessitated by both parents working may be viewed as a welcome circumstance, or a difficult imposition by one or both partners. Thus, a construct other than, or in addition to, role occupancy was needed to more carefully examine the complexity of issues underlying role constellations and their interactions.

Thoits (1987) shed some light on the matter when she argued for the need to look beyond role occupancy to other factors. She defined roles as relationships in which patterned (normative) behavior is exchanged between at least two people. Those persons must be able to anticipate accurately and respond in advance to each others' expectations in order for role relationships to proceed smoothly. When role relationships are nonreciprocal and there are incongruent expectations,

role conflict or role strain will remain high to the extent that flexibility in bargaining is constrained It is not, then, the number of roles that causes problems, but rather the degree to which interpersonal renegotiation of rights and obligations is constrained when partners' role expectations are incongruent.
(p. 17)

Role bargaining is further constrained by the resources of money, education, and social networks role partners have in relation to one another. Thus, while more recent research tended to support the idea that both men and women benefit from multiple role involvements, enough inconsistency in

findings existed to warrant looking beyond role occupancy to alternative explanations for these results.

Research from the stress field indicated that investigators were shifting from conceptualizations of roles as external sets of expectations to be assumed, to a psychological construction wherein role demands are cognitively mediated. Multiple role researchers have apparently considered this reformulation and are presently evolving toward this later, more psychological understanding. More emphasis is being placed on the personal meanings subjects attribute to their roles along with other possible moderating conditions, such as perceptions of social support. An understanding of variations in individual perceptions help to clarify and interpret findings in which women with seemingly similar role constellations have such different responses to them. A transactional model of stress offers a framework for conceptualizing the role of cognitive mediational processes in health outcomes research.

Stress Theories

Different theories of stress have emerged from psychology and physiology with differing emphases and etiologies. What they each hold in common is an agreement that "inadequately expressed emotions trigger tension and anxiety which may produce physical and emotional symptoms. These symptoms are the result of general or selective alteration in the neurophysiologic neuroendocrine or

immune systems" (Griffith, 1983a, p. 313). Stress has been and still is variously regarded as a (a) stimulus, something that generates a disturbance or reactive change; a (b) response, that is, the reaction itself; and a (c) interaction or transaction between a system (i.e. person) and an environment (Lazarus & Launier, 1978). From these conceptualizations have grown the three major schools of thought about stress theory: physiological, environmental, and transactional.

Earliest theories, of which Selye's was the most prominent, were physiological in nature and focused on the response aspect of stress. Selye viewed stress as a nonspecific physiological response of the body to any demands made upon it. He described a General Adaptation Syndrome consisting of three progressive stages resulting from continual or repeated exposure to stress. He postulated this syndrome could lead to disease (Griffith, 1983a, p. 312).

Later theorists viewed stress as a stimulus. In this view, stress illnesses are seen as responses to two types of stimuli: they may be triggered by environmental events impinging on a person or animal; or certain biological or psychological characteristics of the individual set the disease process in motion. These theories are the most sociological in nature and Holmes and Rahe (1967) are the most prominent names associated with this environmentalist position on stress. Their research focused on recent

external life events, both positive and negative, that required the individual to adjust to a different lifestyle, such as, divorce, job loss, promotion, etc.

Life Events Models

Classic stress studies were based on Holmes and Rahe's formulation and used variations of their instrument. Typical studies in this vein were cross-sectional investigations that focused on major life events, such as natural disasters (Sarason, Sarason, & Johnson, 1985), sudden unemployment (Gore, 1978), and childbirth (Nuckolls et al., 1972), as precipitating emotional and physiological reactions often associated with compromised mental and physical health. These studies reflect a simple linear theory: that changes in life require adjustments and that bigger changes and adjustments engender greater distress in people. Scales like Holmes and Rahe's Social Readjustment Rating Scale (1967) were used to gauge how much stress an individual experienced in a certain period of time. Major changes, whether positive or negative, were weighted and listed in rank order. Subjects indicated the changes that occurred to them during the specified time and their scores were summed. High scores indicated high levels of distress and were supposed to predict vulnerability to physical and psychological illness. Over the years modifications have been made which attempt to refine and re-weight the Life Events Scales (Thoits, 1983a). Numerous studies that have used the Holmes and Rahe "Schedule of

Recent Life Experiences" self-report scales have shown a moderate correlation between accumulated life changes and frequency of illness.

Many theoretical and methodological problems have been found with the life events approach, most notably by Lazarus and his associates. Of great concern to them were the types of life events examined. In classic stress studies, events are limited to environmental changes. Only major events were considered and positive events were construed as no different in effect than negative ones, even though most people assume that negative events are more stressful than positive ones. This approach ignored chronic role strains, those little, recurrent stresses that affect life. It also ignored or minimized individual differences in the personal meaning of the event (Lazarus, DeLongis, Folkman & Gruen, 1985). Effects of events differ from individual to individual in their personal significance as do the emotional reactions and vulnerabilities that result. It did not address attempts to cope with the event or the degree to which an individual was personally responsible for the occurrence of the event.

Problems also existed with the measures. Life events scales did not provide representative lists of changes for people in many subgroups in our society, such as adolescents, slum dwellers, homeless, etc. Also, scores based on numbers of changes may fail to acknowledge the actual stressfulness of the life situations of certain

subgroups. For example, the elderly are often in a chronic condition of loss, though few recent major changes may have occurred (Lazarus, 1984; Lazarus & DeLongis, 1983; Lazarus & Folkman, 1984). Such scales also lack diagnostic specificity, can easily succumb to social desirability bias, and have a physical health bias as well (Thoits, 1983a; Vingerhoets, 1985).

In addition, confounding is a problem because some of the items used as stressors are identical to the outcomes (Kanner, Coyne, Schaefer, and Lazarus, 1981; Lazarus et al., 1985). Lazarus and his associates (1985), in pointing to an example of this difficulty, described a scale which assessed

general negative feelings and reactions over the last month [which] suggests that it is yet another measure of psychopathology or distress. These items deal with reactions such as being upset, having or lacking control over things, feeling nervous and stressed, feeling or not feeling effective, and being overwhelmed by difficulties. In this strategy of stress measurement, the antecedent and consequent measures seem to overlap entirely, making it questionable whether the correlation provides any gains in knowledge. (p. 771)

Finally, Life Events scores are poor predictors of illness. As Thoits (1983a) explained,

correlations between life change and psychological (or physical) disorder, although significant, have been disappointingly low. Correlations are usually under .30; they rarely exceed .40. This means that events explain at most 9-16% of the variance in psychological outcome. Given the theoretical importance attached by most researchers to life changes as an etiological factor (or set of factors), the weak explanatory power of events is an embarrassment. (p. 42)

Despite these flaws, the classic life events model served to re-direct stress research from a purely physiological endeavor to one that linked socio-psychological processes to psycho-physiological outcomes.

Transactional stress model

In reaction to many of the inadequacies of the classic stress and social support studies described above, Lazarus and his associates developed a theory and instrument that addressed these concerns and proposed an even greater psychological component in the stressor-health model. They proposed that events in the environment are mediated by cognitive appraisals which in turn determine the individual psychological reaction to the situation. The quality and quantity of the emotional reactions are determined by the process of appraisal. Given the interplay between person and environment the theory "can be characterized as transactional and cognitive-phenomenological" (Vingerhoets, 1985, p. 13).

*Transactional/interactional stress theory is best represented by Lazarus and his colleagues. They see persons as systems that are both active agents of change in the environment as well as respondents to it. In their words,

We cannot sensibly consider the stress response as solely dependent on events external to the person since humans are not passive responders to whatever happens. Rather, they perceive, evaluate, and therefore select and shape their environments to some extent, thus

contributing to or preventing certain kinds of stress from ever happening. (Lazarus & Launier, 1978, p. 295)

They focus on the description of the several varieties of relationships that occur between person and environment, both those that represent flux and change and those that represent stability and consistency. They propose that describing these processes is just as important as determining their causes. Most importantly, they maintain that stress-related transactions are mediated psychologically. It is perception, thought, and judgment that transform external and internal "call[s] for action" (Sarason, 1980) into an appraisal of harm-loss, threat, or challenge. Reinterpretation of events lead decisions about coping options and subsequent behaviors.

Transactional relationships describe a balance of forces that transcend both the person and the environment. Stress is experienced when environmental demands exceed or tax the resources of the person and he or she perceives that if the demand is not met or neutralized there will be harmful consequences (Lazarus, 1984; Lazarus & DeLongis, 1983; Lazarus & Folkman, 1984; Lazarus & Launier, 1978).

A three-pronged appraisal process mediates the stress transaction: primary appraisal, secondary appraisal, and reappraisal. Although the labels suggest a hierarchical or chronological relationship none is intended. When a person perceives a message from the environment he or she assesses what is at stake and how it would affect his or her

personal well-being. In this primary appraisal process the person decides whether the environmental demand is irrelevant, benign-positive, or stressful. If the assessment is one of the first two there is no particular need to act. If it is the latter, the circumstances have been judged to be either negative (harm-loss or threat) or positive (challenge) and a call for mobilization of coping is issued. A situation is deemed a harm or loss when some sort of damage has already occurred. A threat arises when damage is anticipated. A challenge, though positively toned, implying positive mastery and gain, also carries the implication that it is risky and will be difficult to attain. Secondary appraisal is the process by which one evaluates one's coping resources and options. It not only shapes one's coping activities but also shapes the primary appraisal process itself. In other words a person already has an eye on the adequacy of his or her resources to meet the demand before he or she can determine what its personal cost may be. A person's "evaluation of his or her resources determines whether or not one feels threatened, challenged or hopeful" (Vingerhoets, 1985, p. 14). Secondary appraisal is influenced by generalized beliefs about self and environment, previous experiences with similar events, and the availability of such coping resources as one's morale, health, energy levels, problem solving skills, material resources, and social support (Lazarus & Folkman, 1984). Reappraisal is the feedback

mechanism for dealing with new input. It is the continuous and ongoing process of evaluating the reactions and counterreactions in the person-environment relationship so that primary and secondary appraisals can be appropriately readjusted and thoughts and behaviors changed adaptively. Inputs are filtered through relatively stable personality characteristics. Another kind of reappraisal can be called defensive. In this case an appraised situation is reappraised by "denying, detaching psychologically from it (intellectualization) or whatever" (Lazarus & Launier, 1978, p. 308). A self-generated, self deceptive reappraisal results which may or may not be adaptive. While Lazarus conceded that maladaptive coping does operate he felt that the preoccupation with defense mechanisms overemphasized the failure of coping and limited the view of effectiveness and growth.

Lazarus and Launier (1978) suggested that there "are intuitive and empirical grounds for believing that the ways people cope with stress are even more important to overall morale, social functioning and health illness than the frequency and severity of episodes of stress themselves" (p. 308). Although there is no agreed upon theory, no process-oriented instruments and ambiguity about which acts are considered coping, Lazarus and his associates delved into the area and delineated a model of coping that incorporates and is incorporated into the transactional theory of stress. Coping is **defined** as those "efforts,

both action-oriented and intrapsychic, to manage (i.e. master, tolerate, reduce, or minimize) environmental and internal demands, and conflicts among them, which tax or exceed a person's resources" (Lazarus & Launier, 1978, p.296). Coping efforts are directed either at the self or the environment and "functions to regulate distress and to manage the problem that is generating the distress" (Lazarus & Folkman, 1984, p. 188). There are two broad categories of coping functions in this model: palliative (regulating emotions) or instrumental (altering the troubled transaction; problem-solving). Mediating cognitions, such as, (a) degree of uncertainty (b) degree of appraised threat (c) conflict (no undamaging solution seen), and (d) helplessness, influence the modes of coping chosen. Coping modes include (a) information seeking, (b) direct action (based on the belief that something can be done), (c) inhibition of action, and (d) intrapsychic. These are "all cognitive processes designed to regulate emotions by making the person feel better. . . things a person says to himself or herself and forms of attention deployment such as avoidance" (Lazarus & Launier, 1978, p. 317).

In summary, the transactional model of stress addresses many of the imperfections enumerated in the classic stress model. Persons are viewed as both agents of change as well as respondents to the environment, unlike classic stress models which depict stress as originating in

the environment and impacting on the person. Because a transactional stress model emphasizes the role of mediating cognitions, the meaning a person attributes to the event and whether it is labeled as negative or positive will contribute to its personal significance and influence coping. Adding coping to the transactional model addresses that lack in classic stress studies. Another redress the transactional model makes is to shift focus from major negative life events to minor, recurring tensions and strains they call "daily hassles" and small positive events called "uplifts" (Lazarus, 1984; Kanner et al., 1981). Lazarus and his associates developed the Hassles and Uplifts Scales (Kanner et. al., 1981) and found that their scale was a better "predictor of concurrent and subsequent psychological symptoms than were the life events scores." When life events did influence health outcomes, they claimed, their influence was through Daily Hassles (R. Lazarus, class notes 3/8/89). Although challenged on this point by critics, Lazarus defended the Hassles Scales as a significant advance over Life Events measures, particularly in avoiding the problem of confounding so frequently found in classic stress measures (Lazarus et al., 1985).

Even though Lazarus and his associates introduced the notion of cognitive mediation in transactions between persons and their environments and changed the focus from major to minor recurring life events, their scope was still

limited by the preoccupation with life events as precursors to stress. Pearlin (1983) served to broaden both the transactional stress model and role research in general when he showed the connection between the two.

[E]vents can create stress by adversely altering or intensifying the more enduring aspects of key social roles. The altered circumstances of roles with which people have to contend in their daily lives, in turn, are highly productive of stress. Because life events may exert their effects directly through their influence on roles does not mean that we need not pay attention to events. It does mean, however, that when we consider life events as antecedents of stress, we might profitably do so in conjunction with a consideration of roles (p. 4).

Pearlin pointed to roles as potent sources of stress because people are socialized to be highly invested in them. They are also areas on which an array of social forces converge, and are more representative of enduring, repeated patterned behaviors of daily experience than are ephemeral, once-in-a-lifetime episodes. Therefore, he reasoned that the study of social roles "is the inseparable companion of the study of personal stress (p. 6)."

Role of Social Support in Women's Stress

Social Support Findings

Social support research arose as a corollary to and simultaneously with the body of classic Life Events stress research produced by social scientists, psychiatrists, and epidemiologists. There is a common sense ring to the idea that life's tribulations are more easily borne when surrounded by and shared with loving, caring others.

Turner (1983) noted that ideas about social support "hardly signal the discovery of a new idea. In Genesis (2:18) the Lord judges that 'It is not good that a man be alone,' and philosophers from Aristotle to Martin Buber have emphasized that the essence of human existence is expressed in our relations with others" (p. 107).

While our daily experience confirms the value of our social ties it also informs us that the same social ties can be a source of nonsupport and distress as well. Belle (1987) has conducted research, that along with a few other studies, seems to indicate that negative aspects of the social field are more closely related to mental and physical disorder than the positive, supportive aspects. However, this literature is small and has not yet gained the momentum of other research in the social support field.

Interestingly, social support has been proposed as a possible and plausible explanation for contradictory observations and surprising results in the realm of Life Events stress research. More specifically, it was hypothesized that persons with high numbers of troubling events who express less distress than expected (and sometimes none at all) were more socially integrated than those who report symptomatology.

For most persons, there is a direct relationship between the number of Life Events experiences and the extent of symptomatology. Some people do not fit this pattern, those who display a number of symptoms, but experience few stressful life

events. . .[and] those who have few symptoms but many events. (Lin, Ensel, Simeone, & Kuo, 1979, p. 110)

Such puzzling findings give rise to questions about how social support functions in the Life Events-health link. These conjectures are often tied to investigators' theories. Some investigators find low event-high symptom persons to be less well socially integrated than those who have few symptoms but many events (Lin et al., 1979, p. 110). Sarason (1980) hypothesized that the presence or absence of social support allowed persons under distress to "set aside unproductive worries and preoccupations" (p.76) and thereby served an "immunizing and therapeutic function . . . that facilitates coping with crises and adaptation to change" (p. 84). He provided anecdotal examples of some rather dramatic personal and natural catastrophic events to illustrate differences in outcome related to positive social ties: actor Dirk Bogard's years of loneliness in adolescence made tolerable by assurances of family support in childhood; the experiences of British RAF aviators during World War II; survivors of the Buffalo Creek flood, shipwreck survivors, Holocaust concentration camp survivors; as well as his own laboratory studies designed to induce test anxiety in college students. In each of these cases Sarason postulated that social support, either past or present helped individuals through difficult times. Kaplan, Robbins, and Martin (1983) thought social support (or its lack) from family might play a significant

role in the development of self rejecting attitudes. Self rejection is a factor they believe to be one of the antecedents of psychological distress.

What has become remarkable is the hard evidence supporting the seemingly simple idea that highly supported people are in better shape physically and mentally when under difficult circumstances than those with little support. Social support has served as a variable in numerous Life Events stress studies that suggest that social factors "function to enhance or lower susceptibility to" (Turner, 1983, p. 117) mortality and physical disease and disorder as well as psychological distress and disorder.

The groundwork for arguing that social support influences susceptibility to illness comes from animal studies. These studies showed that animals (e.g. rats, mice rabbits and goats), when in the presence of their mothers, littermates, other familiar animals, or human affection, were less vulnerable to gastric ulcer formation, hypertension, experimental neurosis and arteriosclerotic heart disease. Studies of social disorganization, in which relationships within animal communities were disturbed, provide indirect evidence of the potency of social factors in affecting the vulnerability of animals to radiation, diabetes, trichinosis, and arteriosclerosis. Although it is unclear by what processes other animals influence the ones under duress, "these studies make clear

that bonds or relationships, or social support, matter significantly for health, at least for lower animals" (in Turner, 1983, p. 118).

In sociological and epidemiological studies of humans marriage recurs most prominently as an index of vulnerability to physical disorders and death. In his review of the literature Turner (1983) concluded that "the evidence for an important association between marital status and mortality is widespread and incontrovertible (p. 118)." He cited numerous studies which were consistent in finding that "although the relationships are substantially stronger for men than women, death rates are significantly lower for married people for all causes of death across both sex and race" (Turner, 1983, p. 118). When other indicators of social integration, such as, contacts with close friends and relatives, other group affiliations, frequency of social interaction, roles and availability of attachment and perceived social support were added to marital status, the positive correlation of marriage were confirmed. In combination these studies make a powerful case for the association between marriage and mortality (Turner, 1983).

Physical disorders

Social support has also been associated with lower rates of all types of coronary disease: fewer symptoms of angina pectoris (Medalie and Goldbourt, 1976) and improved rates of recovery from myocardial infarction. Social

support has also been associated with positive outcomes in other physiological conditions, such as, fewer complications in pregnancy (Nuckolls et al., 1972), decreased need for steroids in asthmatics (De Araujo, Van Ardel, Holmes, & Dudley, 1973), and protection against a variety of physical difficulties among recently unemployed men (Gore, 1978). In addition, it is suggested that social support is associated with symptom change in essential hypertension, length of survival beyond expected in cancer, and blood pressure in hypertension (Turner, 1983).

Psychological distress and disorders

The evidence linking social support with psychological distress and disorder is even stronger. Sarason and his associates (1985), in their review of the literature, reported that social support by itself did not seem to be related to illness reports, but that "the relationship between negative life events and illness [we]re stronger among subjects with low rather than high levels of support" (p. 156). Despite many theoretical and methodological differences the findings across studies are fairly consistent in substantiating this relationship. On the business of ordinary living, LaRocco and his associates (1980) found substantial evidence that social support "does reduce job-related strain and improve health" (p.206).

Controversy in this field is not about whether social support has an effect. This has been found so many times that it is now a given. Whether it operates as a main

effect or a buffering effect has become the main focus of attention. The most common understanding is that social support operates as a buffer by either preventing (antecedent) the occurrence of negative events or lessening their effect (post). Studies which found evidence of buffering included sudden unemployment (Gore, 1978), childbirth (Nuckolls et al., 1972), (Eaton, 1978), job strains (LaRocco et al., 1980), and psychiatric disturbance (Eaton, 1978). Those who hold to the buffering point of view argue that "the failure to observe interaction of social support with the event may be accounted for by the availability of alternative but unmeasured sources of support" (Kaplan et al., 1983, p. 240). Other investigators found independent effects of social support on well-being but not enough evidence to support a buffering model. Studies by Holahan & Moos (1981) and Lin and his associates (1979) among others supported the direct, independent effects of social support.

These debates are based in the confusion surrounding the multiplicity of conceptualizations and definitions of social support which in turn, create difficulties in the operationalization of those concepts. Social support studies have given rise plethora of measures that are idiosyncratic, and analyses that are inconsistent. Thus, comparisons among social support studies are difficult to make and consistent interpretations are almost impossible.

Social Support: Conceptual Issues

There is inconsistency in defining social support. Social support is variously conceived of as social bonds (Turner, 1985), social networks (Brown & Gary, 1985; Mueller, 1980), meaningful social contact (Cassel, 1976), availability of confidants (Brown & Harris, 1978; Lowenthal & Haven 1968; Miller & Ingham, 1976), human companionship (Lynch, 1977), and social information (Cobb, 1976; Dean and Lin, 1977; Murawski et al., 1978), social integration, and primary-group relations (Turner, 1983). Such diverse definitions have resulted in a patchwork of measures that vary in direction (either received or provided), disposition (available or enacted), approach in discussion (described or evaluated), content (e.g., emotional, instrumental, informational, or appraisal) and network (e.g., family, close friends, neighbors, co-workers, community, and professionals) (Tardy, 1985). These measures are typically designed for a single study and are difficult to use in comparative analyses.

Most studies focus on the receipt of support and overlook the effects of giving support. These studies also tend to disregard the subject's skill or lack thereof in mobilizing and maintaining the kinds of support they want or need. Holahan & Moos (1981) suggested that confounds may be operating. For instance, mental disturbances may impair a person's ability to form extensive or satisfying social networks or to mobilize the ones they have. Some

researchers suggested there may be alternative explanations for mental disturbance that have been attributed to social support. For instance, Kaplan and his associates (1983) submitted that there might be groups or institutions not being inquired about that account for differences in a person's functioning. Holahan & Moos (1981) suggested that issues of social class might enter into the etiology of psychological distress and disorder.

In addition, most investigators tend to ignore the meaning subjects attribute to the giving and receiving of support. This and other qualitative factors may be overlooked because indices of social support are usually limited to quantitative measures. Jacobson (1986) clearly addressed personal perceptions when he voiced his concern that the timing of social support may be an overlooked factor in evaluating whether proffered social support is deemed helpful or not. Thus, it appears that some investigators might agree with Holahan & Moos (1981) who stated that, "the salutary role of social support may be more a function of the quality of support than its absolute quantity" (p. 404).

Social Support: Methodological Concerns

Given the close alignment of social support research with Life Events stress research, many of the methodological difficulties of the latter are also problematic for the former. First, conceptual issues regarding the lack of clear and consistent definitions for

what constitutes social support and the parallel lack of uniform and reliable assessment instruments create methodological difficulties. Second, the consideration of negative and conflictual aspects of social relationships are ignored by all but a few. Third, the confounding effects of life events with social support are given little attention. Fourth, little heed is paid to individual differences in needs as well as individual differences in environmental factors (Holahan & Moos, 1982; Thoits, 1982; Turner, 1981). Finally, a lack of sophistication in analysis is apparent. Most early social support studies employed simple analytical techniques, usually percentage of differences and tests of differences. When correlational analyses were used (rarely) the coefficients, while often significant, were usually rather small, .20 to .29 (Lin et al., 1979). Of interest for this study is Billings & Moos' (1980) finding that "the predictive value of social support was less salient among men than among women" (p. 154). Add to these Jacobson's (1986) concerns regarding the appropriateness of timing of offers of social support and it seems a wonder to have correlations of any significance at all.

Transactional Formulations of Social Support

Many of these concerns are addressed by the transactional model of stress. In it, social support is viewed as resource for coping. As such, it is deemed "a set of social skills a person learns and draws upon in

stressful encounters with the environment" (Lazarus & Folkman, 1984, p. 250), and is a factor in the dynamic cognitive appraisal process. This view emphasized the bidirectional relationship between an individual and society such that, in the giving and receiving of social support each influences the other. A transactional model carries in it the expectation that there "are always individual differences in thoughts, feelings, and behaviors. . . despite the unifying influence of the social context" (p. 259). This focus embraces both behaviors and beliefs. Perceived social support becomes as, or even more, significant for adaptational outcomes than actual support. According to Lazarus and Folkman (1984), "The basic assumption is that people will have better adaptational outcomes if they receive or believe that they will receive social support when it is needed" (p. 259). The transactional model provides clear, theoretically consistent and operational definitions, as well as a vehicle for accounting for individual differences in outcomes. According to this model variation in outcomes may be due to differences in social competence, unique qualities in the person and/or the social environment, or to personal meanings the individual attaches to transactions. Since the judged supportiveness of the transaction is in the eye of the beholder, issues of appropriate timing, and the qualitative nature (conflictual or helpful) of the coping encounter are taken into

consideration. A uniform instrument for assessing perceived social support has not been presented by Lazarus nor his associates, but the one produced by Procidano and Heller (1983) (and selected for this study) shows some promise. It elicits and rests entirely upon perceptions of giving as well as receiving social support.

Convergence of Research

Multiple role research in the late 1980's draws upon and has become fortified by research in the stress and social support fields. The newer studies are characterized by a more psychological-phenomenological conceptualization. They are, therefore, less likely to be bound to energy models. They are more likely to seek direct links between roles and health and more likely to include social moderators. Most distinctively, they are more likely to question core gender assumptions. In addition, these studies typically utilize multiple regression analyses in their designs.

The convergence of stress and multiple role research literatures is characterized by the shift from the mere counting of roles to measuring perceived role quality. Such measures take into account personal meanings attributed to and expectations (both internal and external) for performance of the roles occupied. As Verbrugge (1987) observed, "Subjective reality does not correspond perfectly with objective reality. How burdened people feel with their life roles depends on many factors and are not

determined simply by the roles themselves" (p. 159). Leaders in this new direction are Barnett and Baruch. In their work with midlife women (1985; 1986), Barnett and Baruch collected data on the rewards and concerns women reported with each of the roles they occupied. Their work consistently revealed that "qualitative aspects of paid work, and of marriage, motherhood, and homemaking clearly affect interrelationships among social roles, psychological distress, and health. . . . not all jobs are good for women--neither are all marriages, nor all parenting experiences" (Baruch, Biener & Barnett, 1987b, p.134). This approach certainly supports the transactional stress model perspective: both rely on cognitively mediated appraisal processes to account for individual differences in the response to stressors.

The second feature of convergent research is the inclination to look beyond energy-based models for understanding role stress. These studies are more likely to reject scarcity formulations in favor of expansion models. However, current theoreticians transcend both. Baruch and Barnett (1986) concluded that their findings "support the view that neither the scarcity hypothesis nor the enhancement hypothesis is an adequate explanation of women's experiences in their social roles in relation to well-being, in part because both hypotheses focus on the quantity of roles" (p. 583). They argued that men and women experienced both suffering and gratification in their

life roles. To the extent that a particular role yields more benefits than costs, that role will impact positively on well-being, "even if involvement in the role increases the number of roles a women occupies" (p. 584). Thoits (1987) also found energy hypotheses less relevant to understanding multiple role costs and benefits. Of greater interest to her were constraints on role negotiations. "The interesting question, then, is not whether the 'harmful effects' view or the 'beneficial effects' view of multiple roles is more valid, but under what conditions will the costs of multiple roles outweigh their benefits" (p. 16). According to her point of view, role conflict and/or role strain will remain high for those with nonreciprocal, incongruent expectations to the degree that flexibility in bargaining is constrained. She posited,

It is not, then, the number of roles that causes problems, but rather the degree to which interpersonal renegotiation of rights and obligations is constrained when partners' role expectations are incongruent. Among individuals who hold two or more major roles, role conflict and strain will be high in that subset of individuals faced with structural and normative constraints on interpersonal bargaining. Role conflict and overload will be low in the subset of individuals with greater structural and normative freedom from bargaining constraints (p. 17).

Thus, energy-based models, while useful conceptualizations, no longer provided enough explanatory power for emerging gender role formulations.

An additional trait of the latest intersecting research is the linking of role stressors directly to

health outcomes rather than conflict, strain or overload. Verbrugge (1987), like Barnett, Baruch, and Thoits, found role quality (which she called role burden) rather than role quantity to be a clearer predictor of health. Her data showed that role burdens mattered much more than role responsibilities for a person's health. Basically, the more burdened people felt, the worse their health looked.

How people felt about their lives and their life roles proved extremely important in predicting their health. All of the effects shown . . . were strong and monotonic (not curvilinear). The more people dislike their lives, their main roles, or their jobs, the worse was their health. As general contentment with life declined, health dropped sharply. Concerning job satisfaction, people who stated negative feelings about their jobs tended to have distinctly worse health than other workers. The health of employed women did not generally vary by the combined measure of job and house work satisfaction, with one important exception: women who disliked both their employment and their housework roles did have extremely poor health This did not mean, however, that health deteriorated as objective role responsibilities increased. On the contrary, the people with three major life roles (worker, spouse, parent) exhibited the best health by far, followed by the people with two major life roles, the one, and finally, far below, people with none. (p. 161)

She drew three general conclusions from her results. First, it was "the perceived low quality of roles, not their high quantity, that puts people at risk for poor health. The benefits from role accumulation clearly outweigh the costs of increased stress" (p. 163). Second, women suffer poorer health than men because they hold fewer roles and feel less positively about their lives. Third, the "health outcome of a particular role responsibility or

burden. . . is the same for the men and women who experience it" (p. 163). Hence the newest research leaves no doubt about the impact of role stressors on well-being: they directly affect health.

A fourth trait of this direction in research is the interest in the role social moderators may play in the role combination-health outcome paradigm. Coping resources, especially social support, are often variables in convergent studies. Epstein (1987), in her study of women lawyers, stated that "one factor that seems to contribute to the successful combination of multiple life roles is the emotional support of significant others" (p. 24). Amatea & Fong (1989) applied an interactional model to a population of highly educated women faculty at a major southern university. Their study included measures of personal control and social support in addition to measures of role stressors in the effort to understand antecedents to role strain. They found that of the seven variables only three, personal control, social support, and numbers of roles "contributed significantly to predicting strain. Together these variables explain approximately 50% of the variance in women's strain symptoms" (p. 10). Belle (1987), in her review of the literature, found that women maintained more emotionally intimate relationships, mobilized more and varied social supports, and provided more frequent and effective social support to others than did men. She suggested that women pay higher emotional costs for the

breadth and depth of their social support activities and that the "costs of network ties may, if anything, be greater than the benefits" (p. 271).

These new, convergent studies tend to be broad in scope. They are very cautious regarding gender assumptions and take care to pose gender issue questions for both men and women. Most representative of this trend is the recent publication of two books, Gender and Stress edited by Baruch, Biener, & Barnett (1987a) and Spouse, Parent, Worker: On Gender and Multiple Roles edited by Crosby (1987). These books are filled with study after study which empirically inquire into core gender matters that were formerly assumed. For instance, Barnett & Baruch (1987b) and Gove and Zeiss (1987) asked whether participation in family roles was critical to men's as well as women's well-being and whether the interaction of family and workplace roles actually affected men and women differentially. In a different study Barnett & Baruch (1987a) examined patterns of maternal participation in childcare and their husbands' perceptions of it. Belle (1987) investigated whether women and men participated in, mobilized, and provided social support to similar or varying degrees. Thus, the latest research is more likely to challenge or, at least, not take for granted, gender assumptions that have shaped research directions in the past. Finally, multiple regression analyses are incorporated into these studies as a matter of course.

These techniques are more sophisticated and allow for more precise intimations of causality.

Variables in the Study

The variables selected for inclusion in this study reflect the most current thinking in the combined stress and multiple role research literatures and applies them to a population, women in professional training, about whom little is known.

Women in professional training were selected because their numbers are on the rise and because it is assumed that, as a group, many are apt to be at the juncture of converging and competing role demands. It was hypothesized that they might be subjected to stressors emanating from those roles occupied (e.g., student, worker, spouse and/or parent). Because past studies have shown that women are more likely than men to take longer or to fail to complete their degrees, a decision was made to focus solely on women.

This study took an individual social-psychological perspective based on expansion and transactional models of role energy and stress. Such an approach disregards biological explanations for women's work choices and employment patterns in favor of cultural and psychological interpretations. In other words, whether a particular woman trains for a profession and chooses to engage in work or family roles is a function of opportunities made available to her by the culture and environment and her

decisions about whether to take advantage of those opportunities. These decisions are mediated by cognitions based on her own socialization and values, as well as the dynamic, reciprocal interactions she transacts between herself and her physical and social contexts. Therefore, this study only collected data about the roles women in training occupy but also their personal evaluations regarding the quality of these roles. Although the literature on women in professional graduate training programs amassed to date suggested that the training experience is stressful for most women, criterion measures of both stress and satisfaction were included to allow for individual differences, including the possibility of positive outcomes. Perceived social support was included as a potential moderator variable and individual differences were anticipated. Whether social support functioned as a main or buffering effect for this population was an question of interest. The predictor variables of role occupancy, perceived role quality, and perceived social support were qualitatively different from the criterion measures of stress symptoms and global life satisfactions and thus warranted little concern about the confounding of measures. Finally, regression analyses were utilized in the research design. This more sophisticated statistical approach more clearly accounted for the variance produced by predictor variables.

CHAPTER III METHODOLOGY

This study was designed to determine the levels of psychological and physical well-being of women engaged in graduate professional training and determine the relationship of role appraisal and social support to women's psychological and physical well-being. Two indices of physical and psychological well-being were examined: (a) the extent of reported psychophysiological stress symptoms and (b) the degree of reported life satisfaction. The extent of women's role involvements were assessed in terms of two dimensions: (a) the combination of roles occupied and (b) the perceived quality of experience in each role reported (rewards and concerns). In addition, the mediating influence of social support on women's physical and psychological well being was examined.

Discussed in Chapter III, is the methodology used in this study to address these issues. The chapter includes a description of the research design, the population and sample, the sampling procedures, the instruments used, the data collection procedures, the data analysis procedures.

Research Design

A descriptive design was used. Two predictor variables, roles occupied and perceived quality of role experience, were used to predict two criterion variables: reported stress and life satisfaction, among women enrolled as fulltime students in dental, law, medical, and doctoral level professional graduate programs. One moderator variable, social support, was examined to determine whether it had a direct or buffering effect on the criterion variables.

Life Role Variables

Life role variables in this study were those external and internal demands, including expectations and pressures, to perform in social roles. Two life role variables were examined: Life role occupancy and perceived quality of experience in roles.

Life role occupancy. The first lifestyle variable, life role occupancy, consisted of the specific combination of life roles in which the professional level woman graduate student was engaged. All subjects were students. In addition, subjects occupied none, all or a combination of the roles of (a) worker (b) parent or (c) spouse/partner. Eight life role combinations were possible: (a) student only, (b) employed student, (c) student-parent, (d) employed student-parent, (e) married student, (f) employed, married student, (g) married student-parent, and (h) employed, married, student-parent.

Assignment into one of these categories was based upon each subject's report of the life roles which she occupied at that time and was assessed from responses to demographic items found in the questionnaire.

Perceived quality of experience in roles. The second lifestyle variable, perceived quality of experience in selected major life roles, required identifying specific aspects of those roles that were found rewarding or distressing and then computing a balance score for each role. Subjects responded to an adaptation of Baruch and Barnett's (1986) Role Quality index.

Moderator Variable

The moderator variable for this study was the person-based appraisal of internal and external resources available to individuals to meet the demands of one's social roles. Such appraisals modulate the coping response and may either exacerbate, prevent, or mitigate the effects of stress and life satisfaction.

Social support. The anticipated moderator variable was perceived social support. In this study social support was conceptualized as a coping resource with three main types of functions: emotional, tangible, and informational support (Schaefer et. al., 1981). For purposes of this study social support included: friend support and family support. It was measured by the Perceived Social Support Scales (Procidano & Heller, 1983).

Criterion Variables

Two criterion variables were predicted in this study: reported levels of stress and life satisfaction. Both were person-based self-report measures.

Stress. Stress included signs and intensity of physical, behavioral, and psychological symptoms experienced in a week. It was measured by the Hopkins Symptom Checklist (Derogatis et al., 1974).

Life satisfaction. Life satisfaction refers to global satisfactions and, contentments with life in general. It was measured by a Life Satisfaction index developed by Beutell & Greenhaus (1982).

Population

The population of interest was women enrolled in fulltime professional graduate education between the ages of 20-45. The population from which the sample for this study was drawn consisted of women who were currently registered for six or more credit hours in a professional training program leading to doctorate or a degree in dentistry, law, or medicine at the University of California at Berkeley or the University of California at San Francisco. Both these universities are public institutions that are part of the nine-campus University of California system. The University of California at Berkeley is the oldest campus in the system. Located in the San Francisco Bay area, it has long been known as one

of America's most culturally diverse and politically active universities. The graduate student body reflects this multiplicity as well. Currently, about 31,000 students attend Berkeley; of those, about 9,000 are graduate students and about 5,500 of those are engaged in doctoral studies. Thirty-six percent (1,959) of all doctoral students are women. Students from over 100 countries study in Berkeley graduate programs and comprise about 16% of all graduate students. Among the total number of enrolled doctoral students 13.2% (726) are minorities. The Boalt School of Law has 1048 students currently enrolled, 487 (46%) of whom are women. Those studying law represent about 9.4% of postgraduates on the UC Berkeley campus. Berkeley's reputation for excellence is widespread. Nine Nobel Laureates are among the faculty and 30 out of 32 of its graduate disciplines are ranked among the top ten, giving Berkeley the highest ranking of any U. S. university. In addition, not only does the University of California at Berkeley produce more doctorates than any other university in the country, it also awards the highest number of doctoral degrees to women and minorities.

The University of California at San Francisco is one of four campuses in the University of California system that offers medical and health-related training and is the only one that has that type of training as its exclusive focus. It is located in San Francisco and is noted for its cosmopolitan setting and innovative research and treatment

programs. The University of California at San Francisco receives the largest amount of money for research and the greatest number of National Institutes of Health (NIH) grants in the nation. The student body has the highest proportion of underrepresented minorities and women in the nation. The dental school currently has 342 student enrolled, 162 (47%) of whom are women. Of the women, 71 (44%) are white and 91 (56%) are non-white. Only one woman dental student is on an F1 visa. Of the others, 137 (85%) are U. S. citizens and 23 (14%) are permanent residents. The medical school currently has a total enrollment of 597 predoctoral students; 267 (47%) of those are women. Of the total enrollment 44.1% are minorities, including the highest proportion of underrepresented minorities (2.8%) in the nation.

Both campuses offer distinguished faculty, outstanding research libraries, and state of the art laboratories. As state institutions, tuition is lower than the private universities of their caliber. As a result these campuses are attractive to many aspiring to professional graduate education and admission to programs on each campus is highly competitive. No centralized records are kept on grade point averages (GPA) or examination scores for entering doctoral students on the UC Berkeley campus: each program has its own requirements and standards and these are too numerous to track. However, the average GPA for entering dental students is 3.2 on a 4.0 scale. On the

Dental Admissions Test (DAT), which has a top score of 30, an average score is 15. The average score for entering dental students at UCSF is 19. The average GPA for entering medical students is 3.7 on a 4.0 scale. On the Medical College Admissions Test (MCAT), which has a top score of 15, the average score is below 10. Entering UCSF medical students average 11-12 points on the MCAT.

Sampling Procedures

The names of potential participants were obtained through enrollment records at UCB and UCSF. This list included women dental, medical, law, and doctoral students who gave permission to have their addresses and telephone numbers released. It was anticipated that the pool would be large enough to randomly select 200 subjects from each field of study. When 200 or fewer women students were available in a particular field the entire population became the sample. This occurred for dental, law, and medical programs. When the population in a field was larger, as for doctoral programs, students were randomly selected to form the sample from that field. For example, a table of random numbers was used to select the names of 200 of the 609 women doctoral students who both fell within the specified age ranges and gave permission to release their telephone numbers and addresses. These conditions and procedures resulted in a sample of 607 women being

selected. These potential subjects were then assigned a code number to protect their confidentiality.

All selected participants were mailed a study questionnaire along with a letter explaining the study, and inviting their participation. A copy of the letter may be found in Appendix A. Participants were asked to return their completed questionnaires to the investigator in a pre-addressed envelope provided to them. The established minimum of 200 completed surveys was exceeded. Therefore no additional procedures for obtaining subjects were instituted.

Sample

At the end of the sampling procedure, a total of 607 women had been mailed questionnaires and letters of invitation. Of these, 305 women returned the completed questionnaires for a return rate of 50%. Eight of these 305 subjects, however, were omitted from the final sample due either to their no longer being students, exceeding the age range established for the sample, or failing to complete all sections of the questionnaire. This left a total of 297 women to form the study sample.

This sample of women were currently enrolled in either law, dental, medical or doctoral programs at the University of California at Berkeley or the UCSF. As can be seen in Table 1, approximately 10% of the sample (29) were dental students, 19.9% (59) were law students, 36.7% (109) were

Table 1: Frequency Distributions of Descriptive Variables for the Sample

<u>Program</u>	<u>Total Sample=297</u>	
	<u>Number</u>	<u>Percent</u>
Dental	29	9.8%
Law	59	19.9%
Medical	109	36.7%
Doctoral	<u>100</u>	<u>33.7%</u>
<u>Year</u>	297	100 %
First	33	11.1%
Second	105	35.4%
Third	79	26.6%
Fourth	52	17.5%
Fifth or beyond	<u>28</u>	<u>9.4%</u>
	297	100 %
<u>Campus</u>		
University of California Berkeley	164	55.2%
University of California San Francisco	<u>133</u>	<u>44.8%</u>
	297	100 %
<u>Age</u>		
21-25	134	45.1%
26-30	115	38.8%
31-35	41	13.9%
36-41	<u>7</u>	<u>2.2%</u>
	297	100 %

Table 1--continued

	<u>Number</u>	<u>Percent</u>
<u>Ethnicity</u>		
Black	9	3.0%
White	223	75.1%
Hispanic	16	5.4%
Asian	4	10.8%
Other	<u>17</u>	<u>5.7%</u>
	297	100 %
<u>Citizenship</u>		
U. S.	275	92.6%
Non-U.S.	<u>22</u>	<u>7.4%</u>
	297	100 %

medical students, and 33.7% (100) were doctoral students. These women ranged from being first to fifth year students with 11.1% (33) in their first year of training; 35.4% (105) in their second year; 26.6% (79) in their third year; 17.5% (52) in their fourth year; and 9.4% (28) in their fifth year or more. One hundred sixty four (55.2%) of the women students were in attendance at the medical/health-related campus of University of California at San Francisco while the remaining 133 (44.8%) were enrolled at the University of California at Berkeley campus.

Subjects ranged between 21 and 41 years of age. Slightly over 45% (134) of the subjects were between 21 and 25; 38.7% (115) were 26 to 30; 13.8% (41) were aged 31 to 35; and 2.4% (7) were 36 to 41. In terms of ethnicity, 25% (74) of the sample identified themselves as of minority status: 3% (9) were Black; 5.4% (16) were Hispanic, 10.8% (32) were Asian, and 5.7% (17) identified themselves as Other (Native American, bi-racial, religious or national identification, etc.).

In terms of roles occupied, information was collected as to whether the women occupied paid worker, partner, and parent roles in addition to their roles as students. As can be seen in Tables 2 and 3, the majority of the sample (68%) did not engage in employment while enrolled as students. In addition, most of the women sampled were not parents (92%). However, a sizable proportion of the

Table 2: Frequency Distributions of Descriptive-Independent Variables for the Sample

<u>Role Status</u>	<u>Total Sample N=297</u>	
Employee		
Employed	113	38 %
Non-employed	<u>184</u>	<u>62 %</u>
	297	100 %
Partner		
Married	61	20.5%
Living Together	60	20.2%
Non-Partner		
Separated	4	1.3%
Divorced	7	2.4%
Widowed	0	0 %
Never Married	<u>165</u>	<u>55.6%</u>
	297	100 %
Parental Role		
Parent	25	8.2%
Non-parent	<u>272</u>	<u>91.8%</u>
	297	100 %

subjects in this sample (40.7%) were involved in married and non-married partnerships.

Instrumentation

Six instruments were used in this study. Two were investigator-developed: a demographic questionnaire to obtain information about life role occupancy and possible confounding variables and an open-ended question eliciting any additional questions or comments from the participants. The rest were developed and used in other studies and included: an adaptation of the Role Quality Scales developed by Baruch & Barnett (1986), the Perceived Social Support measures (PSS) developed by Procidano & Heller (1983), the Hopkins Symptom Checklist, developed by Derogatis, et. al., (1974), and a life satisfaction index developed by Beutell (Beutell and Greenhaus, 1982).

Measures of Demographic Information

Demographic information used to accurately describe the sample, to determine the subjects' life role structure, and to control for confounding variables was elicited by items found in Parts A-F, I-N, Q-T, W-Z and GG-KK. These may be found in Appendix B of the survey questionnaire. The information assessed included age, race, type of training program, year in the program, employment, marital, and parental statuses, sources of financial support, and perceptions of one's financial

"comfort." Brief responses, primarily check marks and either a single word or number, were requested.

Many of these items, along with varying drafts of the survey were pilot tested on graduate students at the University of Florida and the University of California at Berkeley. They also benefitted from the feedback of yet other graduate students at these two institutions during different stages of revision.

Perceived Quality of Experience

The quality of experience in a role was assessed by identifying those aspects of the social role which active participants deemed salient. Then their feeling responses to those ongoing difficulties and gratifications were gauged.

Role quality scales. Baruch & Barnett (1986) developed a survey instrument for the study of qualitative aspects of multiple role involvement that were considered advantageous or troubling to individuals engaged in one or more of the major life roles of paid worker, wife and mother. It was first used in a study of 238 midlife women from the greater Boston area and measured their perceptions of the quality of their experiences while engaged in one or more of these major life roles.

Items for the 6 subscales were first developed from a pilot study sample of 72 women who met the criteria for inclusion in the study. During an intensive, semistructured individual interview which lasted from 3 to

6 hours, the investigators were able to identify the "rewarding and distressing aspects of each role [subjects] occupied" (p. 580). These responses were then constructed into the survey scales based on frequency of response and equality of the numbers of rewards and concerns for each role.

An adapted version of the scale was used which contained 128 items. It may be found in Appendix B (pp.1-2, items 1-35; p. 3, items 36-72; p. 4, items 73-102; p. 5, items 103-130). The original scale consisted of 96 items to which 32 adapted items written for the study were added. All items were rated on a 4 point scale indicating the extent to which each of the items was rewarding or distressing, such that 1 was the least rewarding and 4 was the most rewarding.

Eight scales comprised the adapted scale. Six scales were from the original: Paid Worker role rewards; Paid Worker role concerns; Wife role rewards; Wife role concerns; Mother role rewards; Mother role concerns. Two additional scales were added to address the student role: Student role rewards and Student role concerns. These latter two scales were based on items drawn from the paid worker scale and then modified to reflect typical graduate student experiences. The two Paid Worker role scales contained 19 items each. The two Wife Role scales contained 15 items each. The two Mother role scales contained 14 items each. The two Student role scales

developed for this study contained 16 items each. Sample items for the Paid Worker role rewards scale were "Hours fit your needs" and "Sense of accomplishment/competence." Sample items for the Paid worker role concerns scale were "Having too much to do" and "Not liking boss." Sample items for the Wife role rewards scale were "Companionship" and "Good communication." Sample items for the Wife role concerns scale were "Conflicts about children" and "Not getting enough appreciation." Sample items for the Mother role rewards were "Being needed" and "The way they change for the better." Sample items for the Mother role concerns scale were "The financial strain" and "Not having enough control over them." Sample items for the Student role rewards were "Having courses that fit your interests needs" and "Having good support facilities (learning resources, access to faculty)." Sample items for the Student role concerns were "Feeling insecure about your standing in the program" and "Curriculum is too regimented."

Mean scores were calculated because not every respondent was expected to answer every item in each scale. Minimum and maximum mean scores for each scale ranged from 1 to 4. Each subject received three scores per role: a mean reward score, a mean concern score, and a balance score, i.e. the difference between the two mean reward and concern scores. Mean balance scores are computed because not every subject answered every item. The balance score

served as the index of the quality of experience in each role.

Reliability assessments for the six core scales (all but the Student role scales) yielded alpha coefficients that ranged from .71 to .94. Balance scores were correlated with three well-being measures: the Rosenberg (1965) Self Esteem Scale, the depression subscale of the Hopkins Symptom Check List (Derogatis et al., 1974), and a three item pleasure scale. All the correlations were highly significant, ranging from .34 to .70, $p < .001$. No other reliability or validity data are available. Because this instrument was developed for use with women occupying various role combinations and clearly attempted to look at specific qualities of each role to which one might have an evaluative response, it seemed appropriate to use in this study.

Social support. The independent/moderator variable of social support was measured by Procidano & Heller's (1983) Perceived Social Support Scale (PSS). This scale may be found in Appendix B (p. 6, items 131-170). Perceived social support referred to the impact social networks have on the individual, and was defined as the extent to which an individual believed that his or her needs for support, information, and feedback were fulfilled (Procidano & Heller, 1983). Perceived social support from friends was measured by the first scale PSS-Fr), and perceived social support from family was measured by the second (PSS-Fa).

Each 20-item scale consisted of declarative statements to which the individual responded "Yes," "No," or "Don't know," For each item, the response indicative of perceived social support was scored as +1, with total scores ranging from 0 to 20. Example items included, "My friends give me the moral support I need," and "Most other people are closer to their family than I am."

Studies have been undertaken to demonstrate the reliability and validity of the two scales. On a population of over 200 students, the PSS-Fr and the PSS-Fa proved to be homogeneous measures with Cronbach's alpha coefficients of .88 and .90, respectively. Separate factor analyses with orthogonal factor rotation indicated that each scale was composed of a single factor (Procidano & Heller, 1983).

Construct validity was shown by the authors using the same sample. Both PSS-Fr and PSS-Fa were reported to be negatively related to symptoms as measured by the Langner screening instrument (Procidano & Heller, 1983). PSS-Fr was positively related to social assets as measured by the California Psychology Inventory (Good Impression, Sociability, and Social Preference scales), and the Dating and Assertion Questionnaire. PSS-Fr was found to be negatively related to psychopathology as measured by the psychasthenia and schizophrenia scales of the Short Form MMPI. The PSS-Fa was negatively related to depression,

psychasthenia, and schizophrenia scales (Procidano & Heller, 1983).

Stress. One criterion variable, stress, was measured by the Hopkins Symptom Check List (HSCL) (Derogatis et al., 1974). The HSCL may be found in Appendix B, p.7 (items 171-228). It was a 58 item self report symptom inventory. The items were comprised of psychological, physical and behavioral descriptors which were "representative of the symptom configurations commonly observed among outpatients" (p. 1). It was an index of pathology that "reflect[ed] the intensity of distress and the prevalence of symptoms in the normative samples" (p. 1).

The HSCL was originally developed as an improvement measure for research in psychotherapy. It was normed on 2,500 subjects--1,800 psychiatric outpatients and 700 normals, in three separate studies. The first sample was comprised of 1435 subjects diagnosed as anxious neurotics who were part of drug trials that took place in three clinics in the Northeastern United states. The second sample of 367 subjects were identified as neurotic depressives. They participated in two large drug trial studies in the Northeast. The third normative sample of 735 noninstitutionalized persons were part of a more extensive health survey study in Oakland, California. It contained a very high proportion of normals.

The HSCL was scored on five underlying symptom dimensions: somatization, obsessive-compulsive, interpersonal sensitivity, anxiety, and depression. These basic symptom constructs were tested through two procedures. The first was a clinical-rational clustering procedure in which highly experienced clinicians were asked to assign HSCL symptoms to homogeneous clusters based on their experience. The second set of procedures were empirical-analytic factor analyses in which psychiatrists' HSCL ratings of 1,115 and 837 anxious neurotic patients were factor analyzed. Both methods revealed basically the same five factors or clusters. Another study further categorized patients into three social class groups and found high levels of invariance for these five factor structures across class.

The 58 items on the total scales were rated on a four point scale indicating the intensity of distress experienced in the preceding week. Response 1 indicated that distress for that symptom was experienced "Not at all." Response 4 indicated distress for that symptom was experienced "Extremely."

The 12 items on the somatization scale "reflect distress arising from perceptions of bodily dysfunction, "such as cardiovascular, gastrointestinal, respiratory, etc. systems" (p. 4). Sample items were "Headaches," and "Pains in the heart or chest." The obsessive-compulsive dimension was comprised of 8 items that focused on

"thoughts, impulses, and actions that were experienced as unremitting and irresistible" (p. 4) and ego-alien to the individual. Sample items were "Having to do things very slowly in order to be sure you are doing them right" and "Difficulty making decisions." The interpersonal sensitivity dimension consisted of 7 items that relate to feelings of personal inadequacy and inferiority. It included feelings of self-deprecation, acute self-consciousness, and feelings of discomfort in interpersonal interactions (p. 4). Sample items were "Feeling critical of others" and "Your feelings being easily hurt." The depression dimension had 11 items which described dysphoric mood and affect, such as, withdrawal of life interest, lack of motivation and loss of vital energy. (p.4) Sample items were "Thoughts of ending your life" and "Crying easily." The final dimension, anxiety, was made up of 6 items that were signs of high manifest anxiety, such as nervousness, restlessness, tension, panic, etc. Sample items were "Trembling" and "Suddenly scared for no reason."

Item means were calculated which yielded minimum and maximum scores that ranged from 1 to 4. For purposes of this study the combined scale of 58 items was used to assess a global level of perceived stress, yielding mean scores ranging from 1 to 4. Estimates of internal consistency for each subscale revealed Alpha coefficients of .84 to .87. Test-retest reliabilities ranged from .75 for anxiety to .84 for obsessive-compulsive subscales.

Interrater reliability ranged from .64 for depression to .80 for interpersonal sensitivity. As mentioned earlier, the factorial invariance of HSCL symptom dimensions has been quite high. The average invariance coefficient ranged from .65 for interpersonal sensitivity to .96 for somatization.

The HSCL has been shown to have criterion-related and construct validity. Construct validity was discussed earlier in the clinical-rational clustering/empirical factorial invariance assessment studies of the five symptom dimensions. Criterion-related validity was oriented toward practical-application aspects of validity. The HSCL has been shown to be sensitive to the effects of psychotropic drugs for anxious, depressed and psychotic populations (Derogatis, 1973) as well as to demonstrate sensitivity to clinical states.

This instrument has appeared in the psychological research literature in one form or another since original development in the 1950's. The 58-item version has been used in hundreds of studies in the past decade and the HSCL is considered a standard among research instruments. Since it has been determined to be sensitive among non-clinical as well as clinical populations, it was felt that the HSCL was appropriate for use in this study.

Life satisfaction. The second criterion variable was life satisfaction. Two approaches to measuring life satisfaction were considered. The first approach was to

guage satisfactions in each of the major life roles. However, because subjects in this study were expected to be engaged in varying combinations of life roles. In all likelihood this would have resulted in a patchwork of responses that would have been difficult to interpret. Therefore, the second approach, an examination of global life satisfactions was chosen. Overall life satisfaction was measured by an index developed by Beutell (Beutell & Greenhaus, 1982). This scale can be found in Appendix B (p.8, items 229 -236). It contained eight items which were rated on a four-point scale ranging from "Strongly Agree" (1) to "Strongly Disagree" (4). Mean scores yielded a range from 1 to 4, with lower scores indicating greater life satisfaction. Three of the eight items were adapted from previous research and the other five were developed by the researcher for a study investigating spousal characteristics on the felt interrole conflict of 115 married women college students with at least one child. Sample items were "My life situation is very frustrating to me" and "In general, I would say that I am very happy." The index was used with college-educated female populations, seemed to have high internal consistency, with alphas of .85 for women and .83 for men (Beutell & Greenhaus, 1982), and was written with a global perspective. It was, therefore, deemed an appropriate measure for this study.

Data Collection

Each woman was sent a letter of invitation, a questionnaire and a pre-addressed, stamped envelope for the return of the completed questionnaire by regular mail. Additionally, brief messages from the Deans for Student Affairs at the School of Medicine and the School of Law were included in the appropriate students packets. These may be found in Appendices C and D. The Institutional Review Board at the University of Florida and the Committee for Protection of Human Subjects at the University of California at Berkeley determined that it was not necessary to obtain informed consent from subjects.

No subject names were on the survey questionnaire. Instead, each survey was given a code number which was paired with a respondent's name on a separate listing, allowing for follow-up of surveys that were not returned while still protecting confidentiality. If questionnaires were not returned within 10 to 14 days, post cards were sent and telephone calls were made reminding students to return the survey. Data collection ended 4 to 6 weeks after the surveys were mailed.

Research Questions

In this study, the levels of physical and psychological well-being experienced by women students and the relationships between these levels of physical and psychological well-being and their role involvements and

social support were described. The specific questions were as follows:

1. How can women engaged in professional graduate education be described in terms of (a) the intensity of stress they experience? (b) the strength of life satisfaction they experience? (c) the combination of roles in which they engage? (d) the degree of life role quality they report? (e) the level of social support they perceive?
2. Do women involved in different life role combinations differ regarding their reported levels of stress and life satisfaction?
3. How do women's appraisal of their role experiences relate to their levels of stress and life satisfaction?
4. How do women's role appraisal and social support relate to the level of stress and life satisfaction they experience?

Data Analyses

To answer these questions, the data were coded and analyzed by computer using SPSSX. When subjects were earning simultaneous professional and doctoral degrees, they were included as members of the professional school for analysis. Mean scores on instruments were used unless clearly deemed inappropriate. Survey records were discarded only if entire response sets were absent for particular instruments, i.e., student role rewards and

concerns, social support, stress, or life satisfaction. Missing responses to demographic and other instruments were judged on a case by case basis and not usually considered a reason for rejecting a record.

Descriptive statistics, one-way analyses of variance, and multiple regression analyses were used to analyze the data. Specific data analytic procedures and results are described in Chapter IV.

CHAPTER IV RESULTS

This study was designed to examine and describe the physical and psychological well-being of women involved in professional graduate education. A second purpose of the study was to explore the relationships between women's physical and psychological well-being and their role involvements. The third purpose of the study was to explore the mediating effect of social support on women's levels of stress and life satisfaction. The sample consisted of 297 women engaged in professional graduate education at the University of California at Berkeley and the University of California at San Francisco. In this chapter the results of the study will be presented as they pertain to each of the five research questions posed.

Research Questions

Question One

The first research question addressed how women engaged in graduate professional education could be described in terms of (a) the intensity of stress they experience; (b) the strength of life satisfaction they express; (c) the combination of roles in which they are engaged; (d) the degree of role quality they report; and

(e) the level of social support they perceive. Means and standard deviations were computed for each of these variables with the exception of the combination of roles occupied. These are presented in Table 3. As can be noted, participants reported a mean score of 1.6 ($SD=.4$) on the stress questionnaire, which had a possible range of 1 to 4. This is slightly higher than the general population norm of 1.05 but lower than either the anxious-neurotic (1.98, $SD=.93$) or the depressive neurotic (2.23, $SD=.98$) norm groups reported by Derogatis and his associates (1974). The participants reported a mean life satisfaction level of 1.8 with a standard deviation of .6 on a scale that ranged from 1 to 4. Although no normative scores were reported by Beutell and Greenhaus (1982) this sample clearly indicated positive satisfaction with their lives. On role quality subjects had a mean score of 1.0 with a standard deviation of .62. This mean role quality score was derived by adding each subject's role balance scores (computed by calculating the difference between the mean rewards and mean concerns indicated for each role occupied) and then dividing by the number of roles occupied by each subject. On scales that ranged from 0 to 20, the participants' mean ratings of the levels of social support they exchanged with friends and family, were 16.9 ($SD=1.9$) and 13.6 ($SD=5.7$), respectively. The subjects in this study indicated higher support from friends than did the three midwestern university undergraduate norm groups

who scored between 15.15 and 15.65 with standard

Table 3: Means and Standard Deviations of Stress, Satisfaction, Role Quality, and Social Support Variables

Variable	Mean	SD	Possible Range
Stress	1.6	.4	(1-4)
Life Satisfaction	1.8	.6	(1-4)
Mean Role Quality	1.0	.62	(-3 to 3)
Social Support-Friends	16.9	1.9	(0-20)
Social Support-Family	13.6	5.7	(0-20)

Table 4: Student Sample Size by Work and Family Role Status Combinations

Employment Status	Family Status			
	Never Married	Coupled without children	Coupled with Children	Single with Children
No (184)	1114	352	517	7 1
Yes (113)	2 60	446	6 6	8 1

Note: N=297

deviations from 4.22 to 7.85. Their support from family was about the same or slightly less than those undergraduates who scored between 13.4 and 15.1 with standard deviations from 4.8 to 8.1.

Of great interest were the various role combinations occupied by the participants. Frequencies were computed for combination of roles occupied. These are presented in Table 4. As can be noted, eight role combinations were possible from the four role statuses under consideration. Subjects clustered in those categories as follows: 114 (38.4%) were students only; 60 (20.2%) were employed students; 52 (17.5%) were coupled without children; 46 (15.5%) were employed and coupled without children; 17 (5.7%) coupled with children; 1 (.3%) was a single mother; 1 (.3%) was an employed single mother; and 6 (2.0%) were employed and coupled with children.

Question Two

Whether women involved in different combinations of life roles differed regarding the level of stress and satisfaction they experienced was the focus of the second research question. For this question, one-way analyses of variance were computed. There were eight possible role combination categories. However, only five of these categories had an adequate number of subjects. Categories six, seven, and eight were collapsed into one category. Results of the one-way analyses of variance in stress and life satisfaction of women in each of these role

Table 5: Analysis of Variance in Stress
for Role Occupancy Categories

SOURCE	df	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB.
BETWEEN GROUPS	5	3005	601	1.2	.29
WITHIN GROUPS	290	141114	487		
TOTAL	295	144119			

* - Significant LE .05 ** - Significant LE .01

Table 6: Means, Standard Deviations, and Ranges
of Stress Scores for Role Occupancy Categories

GROUP	NUMBER	MEAN	SD	MIN	MAX
1 Student Only	114	93	2	61	176
2 Employed student	60	98	3	59	167
3 Student partner	52	91	3	63	158
4 Employed partner	46	90	3	60	164
5 Student, partner, mother	17	87	5	60	130
6 Alternate (Combines Groups 6, 7 & 8)	7	102	10	70	146
TOTAL	296	93	1	59	176

Note: Alternate Group ⁶ includes: Student, single mother; Employed single mother; Employed partner, mother

Table 7: Analysis of Variance in Life Satisfaction for Role Occupancy Categories

SOURCE	df	SUM OF SQUARES	MEAN SQUARES	F RATIO	F PROB
BETWEEN GROUPS	5	120	24	1.1	.34
WITHIN GROUPS	290	6117	21		
TOTAL	295	6237			

* - Significant LE .05 ** - Significant LE .01

Table 8: Means, Standard Deviations, and Ranges of Life Satisfaction Scores for Role Occupancy Categories

GROUP	NUMBER	MEAN	SD	MIN	MAX
1 Student Only	114	14	4	8	25
2 Employed student	60	15	5	8	27
3 Student partner	52	13	5	8	30
4 Employed partner	46	15	5	8	26
5 Student, partner, mother	17	13	4	8	21
6 Alternate (Combines Groups 6,7 & 8)	7	15	7	8	28
TOTAL	296	14	5	8	30

Note: Alternate Group 6 includes: Student, single mother; Employed single mother; Employed partner, mother

combination categories are presented in Tables 5 and 7 respectively. As can be seen, women in these varying role combinations did not differ significantly in either the level of stress symptoms reported or ($F(5,290)=1.2$, $p=.29$) or the level of life satisfaction indicated ($F(5,290)=1.1$, $p=.34$). Means and standard deviations in stress and life satisfaction by role combination are presented in Tables 6 and 8.

Question Three

How women's appraisals of the quality of their role experience relate to their levels of stress and life satisfaction reported was addressed in the third research question. For this question, two regression analyses were used. Hierarchical regression equations were employed in which employment status, marital status, and parental status were entered into the first step and mean role quality was entered into the second to gauge their contribution to stress and life satisfaction. The results of these equations are reported in Tables 9 and 10. The R-square for role status was .003 which indicated that these variables contributed less than 1% of the variance in stress ($F(3,293)=1.34$, $p=.26$). When mean role quality was figured into the next step R-square rose to .03, indicating that the appraisal of quality averaged across roles contributed 3% of the variance in stress ($F(4,292)=3.31$, $p=.01$), a low but significant contribution. For life satisfaction the role status R-square was .008

Table 9: Hierarchical Regression Analysis of the Relationships Among Stress, Role Status, and Women's Role Appraisal

Variable	Estimate	SE	t	pr
Role status occupancy				
Employment Status	-3.35	2.7	-1.26	.21
Partner Status	4.61	2.7	1.67	.096
Parental Status	-1.67	4.9	-.34	.73
Intercept	94.6			
R ²	.003			
F	(F(3,293)= 1.34, p= .26)			
Appraisal of Role Quality				
Mean Role Quality	-6.34	2.1	-3.01	.003
Intercept	100.9			
R ²	.030			
F	(F(4,292)=3.31, p= .011)			

Table 10: Hierarchical Regression Analysis of the Relationships Among Life Satisfaction, Role Status, and Women's Role Appraisal

Variable	Estimate	<u>SE</u>	t	pr
Role status occupancy				
Employment Status	-1.13	.55	-2.05	.04
Partner Status	.63	.57	1.10	.27
Parental Status	.19	1.01	.19	.85
Intercept	14.66			
R ²	.008			
F	(F(3,293)= 1.82, p=.14)			
Appraisal of Role Quality				
Mean Role Quality	-2.49	.42	-5.96	.000
Intercept	17.12			
R ²	.11			
F	(F(4,292)=10.40, p=.001)			

Table 11: Hierarchical Regression Analysis of the Relationships Among Stress, Role Combination, and Women's Role Appraisal

Variable	Estimate	SE	t	pr
Role Combination Occupancy				
1 Student Only	-1.00	1.00		
2 Employed student	4.24	3.51	1.21	.23
3 Student partner	-1.98	3.69	-.54	.59
4 Employed partner	-3.09	3.85	-.80	.42
5 Student, partner, mother	-6.67	5.7	-1.16	.25
6 Alternate (Combines Groups 6,7 & 8)	8.7	8.5	1.01	.312
Intercept	93.4			
R ²	.003			
F	(F(5, 290)= 1.23, p.= .29)			
Appraisal of Role Quality				
Mean Role Quality	-6.6	2.1	-3.13	.002
Intercept	99.7			
R ²	.03			
F	(F(6,289)=2.69, p=.01)			

Note: Alternate Group ⁶ includes: Student, single mother; Employed single mother; Employed partner, mother

Table 12: Hierarchical Regression Analysis of the Relationships Among Life Satisfaction, Role Combination, and Women's Role Appraisal

Variable	Estimate	SE	t	pr
Role Combination Occupancy				
1 Student Only	1.00	1.00		
2 Employed student	.98	.73	1.34	.18
3 Student partner	-.68	.77	.89	.37
4 Employed partner	.59	.80	.73	.47
5 Student, partner, mother	-1.15	1.19	-.96	.34
6 Alternate (Combines Groups 6,7 & 8)	.76	1.7	.43	.67
Intercept	14.08			
R ²	.002			
F	(F(5,290)=1.13, p=.34)			
Appraisal of Role Quality				
Mean Role Quality	-2.5	.42	-5.99	.00
Intercept	16.5			
R ²	.13			
F	(F(6, 289)=7.03, p=.001)			

Note: Alternate Group ⁶ includes: Student, single mother; Employed single mother; Employed partner, mother

($F(3,293)=1.82$, $p=.14$) and the mean role quality R-square was .11 ($F(4,292)=10.4$, $p=.001$).

A similar procedure was followed using role combination occupancy in the place of role status. The results of these equations are reported in Tables 11 and 12. The R-square for role combination occupancy was .003 which indicated that these variables contributed less than 1% of the variance in stress ($F(5,290)=1.23$, $p=.29$). When mean role quality was entered at the next step, R-square rose to .03, indicating that the appraisal of quality averaged across roles contributed 3% of the variance in stress ($F(6,289)=2.69$, $p=.01$), a low but significant contribution. For life satisfaction the role combination R-square was .002 which indicated that less than 1% of the variance in life satisfaction was contributed by role combination ($F(5,290)=1.13$, $p=.34$). When mean role quality was added the R-square increased to .13 ($F(6,289)=7.03$, $p=.001$). These results suggest that appraisal of role quality accounted for 13% of the variance in life satisfaction.

Question Four

How social support affected the relationship between women's appraisals of the quality of their role experience and their levels of stress and life satisfaction was addressed in the fourth research question. For this question two types of multiple regression analyses were performed. First, hierarchical multiple regression

analyses were conducted based on the theoretical relationships proposed in which role combinations occupied were entered, along with role quality, social support of friends, social support of family, the interaction of social support of friends, and the interaction of social support of family. These results are reported in Tables 13 and 15. When entered hierarchically the role occupancy, mean role quality, social support, and interaction terms yielded an R-square of .07 ($F(10, 285)=3.06, p=.001$) for stress and R-square of .16 ($F(10, 285)=6.76, p=.001$) for life satisfaction.

Subsequently, forward, stepwise multiple regression analyses were used in which only those predictor variables adding significantly ($p < .05$) to the regression equation were entered. This second set of analyses was data-driven rather than theory-driven and the resultant equation contained only those predictor variables that significantly entered the regression equation. These results are reported in Tables 14 and 16. The stepwise regression equations produced a two-variable and a three-variable equation for stress and life satisfaction respectively. The stress equation included the variables of social support-friends and mean role quality and produced an R-square of .08 ($F(2,293)=12.9, p=.001$), a low but significant contribution of 8%. The life satisfaction equation included the variables social support-friend, mean role quality, the role combination category of student,

Table 13: Hierarchical Regression Analysis of the Relationship Between Stress and Women's Role Appraisal and Social Support Resources

Variable	Estimate	SE	t	pr
Role Combination				
1 Student Only	1.00	1.00		
2 Employed student	2.03	3.52	.58	.57
3 Student partner	-.04	3.68	.01	.99
4 Employed partner	-3.52	3.82	-.92	.36
5 Student, partner, mother	-8.63	5.59	-1.54	.12
6 Alternate (Combines Groups 6,7 & 8)	6.26	8.4	.75	.46
Appraisal Role Quality (RQ)	-6.18	11.16	-.55	.58
Social Support-Friends (PSS-Fr)	-1.5	.82	-1.77	.08
Social Support-Family (PSS-Fa)	.13	.42	.30	.76
Interaction RQ, PSS-Fr	.08	.69	.11	.91
Interaction RQ, PSS-Fa	-.10	.35	-.29	.78
Intercept	120.03			
R ²	.07			
F	(F(10, 285)=3.06, p=.001)			

Table 14: Stepwise Regression Analysis of the Relationship Between Stress and Women's Role Appraisal and Social Support Resources

Variable	Estimate	SE	t	pr
Social Support-Friends (PSS-Fr)	-1.34	.36	-3.7	.002
Mean Role Quality	-6.61	1.99	-3.3	.001
Intercept	119.75			
R ²	.08			
F	(F(2,293) =12.9, p=.001)			

Table 15: Hierarchical Regression Analysis of the Relationship Between Life Satisfaction and Women's Role Appraisal and Social Support Resources

Variable	Estimate	SE	t	pr
Role Combination				
1 Student Only	1.00	1.00		
2 Employed student	.19	.69	.27	.79
3 Student partner	-.08	.72	.12	.91
4 Employed partner	.67	.75	-.89	.38
5 Student, partner, mother	-1.48	1.10	-1.35	.18
6 Alternate (Combines Groups 6,7 & 8)	.10	1.65	.06	.95
Appraisal Role Quality (RQ)	-5.19	2.20	-2.36	.019
Social Support-Friends (PSS-Fr)	-.48	.16	-2.95	.003
Social Support-Family (PSS-Fa)	-.06	.08	-.77	.44
Interaction RQ, PSS-Fr	.16	.14	1.19	.23
Interaction RQ, PSS-Fa	.02	.07	.25	.81
Intercept	24.67			
R ²	.16			
F	(F(10, 285)=6.76, p=.001)			

Table 16: Stepwise Regression Analysis of the Relationship Between Life Satisfaction and Women's Role Appraisal and Social Support Resources

Variable	Estimate	SE	t	pr
Mean Role Quality (RQ)	-2.43	.39	-6.19	.000
Social Support-Friends (PSS-Fr)	-.33	.07	-4.74	.000
Student, Partner, Mother	-1.82	1.05	-1.74	.083
Intercept	21.72			
R ²	.17			
F	(F(3, 292)=21.50, p=.001)			

Table 17: Correlation Coefficients for Intercorrelations Among Dependent and Independent Descriptor Variables

	STRESS	LSATISF	R QUAL	PSSFR	PSSFA	ROCC
STRESS	1.0000					
LSATIS	.5495**	1.0000				
R QUAL	-.1930**	-.3348**	1.0000			
PSSFR	-.1822**	-.1621**	.0634	1.0000		
PSSFA	-.0767	-.1659**	.1415*	.0627	1.0000	
ROLE OCC	-.0514	-.0168	.1377*	-.0090	.0123	1.0

* - Significant LE .05 ** - Significant LE .01
(2-tailed)

non-employed, partner, mother. The resulting R-square was .17 ($F(3,292) = 21.50$, $p = .001$), modest but significant 17% contribution to the variance in life satisfaction.

Intercorrelations were also computed on the dependent variables and the independent variables of interest. As can be seen in Table 17, mean role quality and social support from friends correlated negatively and significantly ($p < .01$) with stress. In contrast, role occupancy and social support from family did not correlate with stress to any significant degree. Mean role quality and social support from both family and friends correlated negatively at significant ($p < .01$) levels with life satisfaction. Conversely, role occupancy did not correlate with life satisfaction. Not surprisingly, role occupancy correlated at significant levels ($p < .05$) with role quality, given that one must occupy a role in order to experience rewards or concerns from it. However, unexpectedly, social support from family also correlated with role quality at a significant level ($p < .05$). This suggested that social support from family shared some of the variance with appraisal of role quality.

Summary

Overall, the participants in this study reported a mean stress score of 1.6 ($SD = .4$) and a mean life satisfaction score of 1.8 ($SD = .6$). They occupied a variety of role combinations, but the distribution was skewed: most

were age 30 and below, were not employed, were unattached, and had no children. Their average role quality score was 1.0 ($SD=.6$). Their perceived social support scores from friends and family averaged, 16.9 ($SD=1.9$) and 13.6 ($SD=5.7$), respectively. When the women students in various life role statuses and combinations were compared, there were no significant differences demonstrated among the groups in terms of levels of stress and life satisfaction reported.

Regression analyses indicated that the level of life satisfaction reported by these women students could be predicted by the knowledge of their role appraisal and social support from friends ratings. The amount of variance in life satisfaction levels that could be accounted for was 17%. Similarly, regression analyses revealed that, in this study, social support from friends and the interaction of role quality appraisal and social support of friends were significant predictors of stress for these women students. These two variables accounted for 7% of the variance in stress for this sample of women.

CHAPTER V DISCUSSION

The purpose of this study was threefold. First, the physical and psychological well-being of women engaged in professional graduate education was examined. Second, relationships between women's physical and psychological well-being and their role involvements were explored. Third, using a transactional stress model, the mediating effects of social support on the relationships between women's role appraisal and reported physical and psychological well-being were assessed. In this chapter, a discussion of the results for each of the research questions, the limitations of the study, and its implications are presented.

Question One: What the Sample Reports

The first question examined the roles occupied, levels of stress, life satisfaction, role quality, and social support reported by participants in this study. The sample consisted of predominantly white (75%), American (92.6%) women, a large proportion (83.9%) of whom were age 21 to 30. Less than half (38%) worked and slightly more than half (55.6%) were single. Less than 10% (8.4%) were mothers. These demographics suggest that in this sample

the majority of women had temporarily postponed family and work roles, especially the mother role. This observation makes intuitive sense given the relative youth of the women; since most are in their late twenties or early thirties, these women can engage in the rigors of professional and graduate education yet still have time left on the biological clock. Although all the possible role combinations were represented in this sample, the more complex ones, especially those involving parenting, were held by less than 10%. Generally, this was a fairly homogeneous sample with relatively simple role configurations.

Most (52.2%) of the women reported that they were self supporting financially. Between a quarter and a third (28.2%) combined self support with support from mate, relatives and others. Less than a fifth (17.8%) of the group were completely supported by others, either a mate or relatives. This suggests that for a sizable portion of the sample finances might be an issue especially if savings were being depleted, students loans were accumulating, or work hours were interfering with time needed for study. The reported levels of financial comfort indicate that over half expressed comfort with their financial situation while 45% of the women find their financial situation uncomfortable and 9% of those say they are "very uncomfortable." These figures represent the possibility

of a confounding source of stress emanating from financial strains (Pearlin & Schooler, 1978).

Participants in this study reported a slightly above average level of stress. On the Hopkins Symptom Check List this sample scored about a standard deviation higher than a general population norm group. However, they scored a standard deviation lower than an anxious neurotic norm group and two standard deviations lower than a depressed neurotic norm group. This suggests that women engaged in professional graduate education do experience stress but not to clinically significant levels. While no comparison group scores were reported for life satisfaction, the mean scores on the Life Satisfaction Index (Beutell & Greenhaus, 1982) indicate that women in this sample agreed or agreed strongly that they were satisfied with their lives. These results are consistent with Cartwright's (1978; 1987) findings in which young women physicians reported moderate stresses and strains while simultaneously expressing satisfaction with their lives.

Participants also reported more rewards than concerns with the roles they occupied and reported average levels of social support from family but higher than average social support from friends. Thus, this sample appeared to experience some distress but not to a disabling degree. This may have been due to the homogeneity of the sample and the limited number of multiple role holders, especially those with parenting responsibilities. It might also have

to do with self selection processes. Perhaps those women who choose to engage in professional graduate education have personality characteristics (Kobasa, 1987) or coping styles (Amatea & Cross, 1981; Amatea & Fong, 1987; 1989) that enable them to deal effectively with life stresses.

Question Two: Role Combination Occupancy

Do particular combinations of life roles exacerbate or alleviate the duress experienced during professional training? The second research question examined whether the number or combination of roles occupied by the women influenced their reported levels of stress and life satisfaction. The results of the analyses clearly indicated that they did not. Few differences were found among women in the six role combination groups. Furthermore, the particular role combinations occupied did not predict either the level of stress or life satisfaction in this sample of women. Less than 1% of the variance in both stress and life satisfaction was explained by role combination occupancy. One explanation for these findings is that there was a low number of respondents combining their student role with the other major life roles. Motherhood, a role status often associated with stress, was limited to 8.4% of the sample and single motherhood, a status often associated with few financial and supportive resources (Harrison & Minor, 1982), was reported by only .6%--two women. It may be conjectured that these numbers are representative of the population and that very few

women undertake professional training and motherhood simultaneously. It may be that more women in this category exist but they chose not to complete the survey, being too busy and distressed to respond. Perhaps if more student mother data were available, greater differences in group means and more contribution to the variance in the independent variables may have been seen.

An interesting sidelight was the finding from the data driven analysis which revealed that the role combination of student, partner, mother, in the presence of social support and role quality appraisals, remained as a significant variable to predict the variance in life satisfaction. Only 6% of the sample comprised this group so interpretations of this finding must be made with caution. However, this finding may lend support to expansion model theorists who suggest that multiple role holders may experience better physical and psychological health (Marks, 1977; Sieber, 1974; Thoits, 1983; Verbrugge, 1983a; 1983b).

Yet, the lack of a variety of role combinations does not entirely explain the uniformity among the student, worker and partner role combinations. Baruch and Barnett (1987) pointed out that "being a paid worker was associated with higher self-esteem (p. 583)" and Verbrugge (1983a) and others point to the mental and physical health benefits that accrue to working women (Coleman et al., 1987; Cooke & Rousseau, 1984; Thoits, 1987). A parallel increase in

esteem and health benefits may be derived from one's status as a student in a professional program, especially at a highly prestigious institution. If, as Beutell and Greenhaus (1982) suspected, women in such programs have partners who are supportive of their efforts, the partner role may not provide a source of much variation. Like the subjects in Beutell and Greenhaus' (1982) study of women college students, the subjects in this study may have mates who share similar work role orientations and have systems of mutual accommodation which allow them to reduce home and non-home conflicts. It may also be that women selected into professional programs at these two institutions possess personal attributes, such as hardy personalities (Kobasa, 1979; 1987) that enable them to function well in their major social roles with the result that particular role combinations do not discriminate among them. In summary, it is clear that neither role status membership, role quantity, nor role combination occupancy were predictors of either stress or life satisfaction for the women in this study.

Question Three: Perceptions of Role Quality

Does the evaluation of the quality of experience in one's life roles influence the levels of stress and satisfaction reported? The third research question added features of a transactional stress model to the study of multiple role concerns. Subjects' cognitions and judgments about the rewards and concerns they experienced in each of

the roles they occupied as employees, partners, and parents. Differences between rewards and concerns were calculated and rewards consistently outweighed concerns. Although these positively toned appraisals were also found by Baruch and Barnett (1986), the differences were less, among the women in this study, than in the norm group of women. For example, on work role balance, the norm group scored 1.35 ($SD = .81$) while the subjects in this study scored .95 ($SD = .71$), about half a standard deviation lower than the norm group. The partner role balance scores were more similar: for the norm group they were 1.67 ($SD = .92$) and for the students they were 1.5 ($SD = .78$). Finally, the mother role balance scores were 1.47 ($SD = .71$) for the norm group and .95 ($SD = .55$) for the participants in this study. The more limited differences in role quality appraisal for the subjects in this study may be attributable to the homogeneity of the sample. However, an examination of subjects' patterns of responses and comments on the survey revealed that many subjects had fairly high concerns, particularly with aspects of their programs, but these were outweighed by the rewards they experienced. Women reported experiencing many rewards in the partner role. These results suggest that the women in this sample appraised their roles as slightly more problematic than did the norm group.

Question Four: Perceptions of Social Support

Do particular social ties exacerbate or alleviate the duress experienced during professional training? In the fourth research question, how social support from friends and family, appraisal of role quality, the interaction of social support and role quality appraisal, and role combination occupancy relate to levels of stress and life satisfaction experienced by women in professional graduate education were examined. All of the variables contributed 8% of the variance in stress and 16% of the variance in life satisfaction. When the variables were entered into stepwise regression equations role quality appraisal and perceptions of social support from friends remained as significant, negative predictors of both stress and life satisfaction, contributing to 7% and 17% of the variance in each respectively. Low social support from friends predicted high levels of stress and low levels of life satisfaction, and high levels of social support from friends predicted low levels of stress and high levels of satisfaction. Similarly, negative appraisals of role quality predict higher levels of stress and lower levels of life satisfaction, whereas, positive appraisal of role quality is associated with lower levels of stress and higher levels of life satisfaction. Such findings are consistently obtained in social support literature (Turner, 1981; 1983) and are congruent with directions ascertained in the role quality well-being link (Baruch & Barnett,

1986). The question remains as to why social support of friends predicts stress and life satisfaction but social support of family does not? Part of the answer may be discovered in the intercorrelations among dependent and independent variables (Table 17): family support and appraisal of role quality are correlated at the .05 level of significance. Two of the roles appraised were family roles: partner and mother. The directions on the social support scales were vague about whether the term "family" referred to one's family of origin or procreation. Yet, comments on the surveys and the large proportion single, childless couples, suggested that most, if not all, subjects responded to these items for their families of origin. When placed in the context of normal family life stages this finding is not so surprising. According to McGoldrick and Carter (1982), young, unattached adults have the primary task of "coming to terms with his or her family of origin[which] requires [that] the young adult separate from the family of origin without cutting off or fleeing reactively to a substitute emotional refuge (p. 175)." Among the second-order changes in family status required to proceed developmentally are the following: (a) differentiation of self in relation to family of origin, (b) development of intimate peer relationships, and (c) establishment of self in work (p. 176) Given that the majority of the participants in this study are a relatively young group of adults who are unattached and are in the

thick of establishing a professional work identity, it is clear they fall into this life stage category. The need to establish autonomous identities as they launch from their families of origin makes the primacy of peer relationships understandable and the social support of friends a key factor in the life role-well-being link.

Whether social support directly influences stress or life satisfaction or serves as a buffer was not definitively answered. However, social support from friends did not correlate with appraisal of role quality and the interaction of social support and role quality dropped out of the equation when in the presence of its component parts. These findings suggest that social support operates directly to predict these two well-being indicators.

Only life satisfaction was predicted by a third variable, the life role combination of student, partner, and mother. As discussed earlier, this finding must be viewed with caution given the low numbers of subjects actually occupying all three of these roles. The appearance of a role combination category as a predictor of life satisfaction is surprising in light of the low contribution (less than 1%) of role combination to either stress or life satisfaction. What is particularly surprising is that this combination includes the mother role--a role typically associated with negative well-being outcomes for women who work. Possible explanations might

be that the role is difficult and it shows; that subjects are able to marshall resources (e.g. au pairs, relatives, caretaking spouses) to alleviate the responsibilities and conflicts; or that the value subjects place on their family roles causes them to reconstrue family demands as challenges with high rewards. This certainly would be an area worthy of further inquiry.

Limitations of the Study

Descriptive studies, such as this one, must be interpreted with caution for a number of reasons. First, because the design of the study was not longitudinal, the direction of effects among variables found cannot be assessed. For example, it may be that stress arising from sources not measured in the study causes a lowering of the levels of life satisfaction reported or vice versa. Second, there are inherent limitations in the study sample due to the constraints placed on the selection procedure wherein only those women who gave permission for the release of their names could be invited to participate in the study. This resulted in a mixed selection procedure employing both the inclusion of entire available populations and random selection. Despite these measures and a relatively high return rate (50%) of completed questionnaires, not all women invited to participate in the study did so. In addition, it is not known how many of these women actually fit the criteria for inclusion. Thus, a sampling bias due to self selection may have been

present. Perhaps those who chose to respond to the survey were the highest functioning members of the sample while those who did not were too harassed to respond. It may have been that selection occurred at the institutional level such that intellectually and socially adept persons were chosen for graduate professional programs.

Conceivably, some features of the academic setting enabled women to maintain high levels of well-being while engaged in their studies.

Participants in this study were enrolled in professional study at two large state universities which have highly selective admission criteria. Thus, these results may not generalize to women involved in different professional training specialties or contexts. Furthermore, because of the voluntary nature of the study, this sample may have resulted in certain professional training fields and certain employment, marital, and parental role status combination being disproportionately represented. Certain ages and races may have been disproportionately represented as well. The inclusion of messages from the Deans of the Medical and Law Schools may have influenced the numbers of students from those programs who responded resulting in overrepresentation of respondents from those fields. The results may have been biased if those who completed and returned the questionnaire were persons who felt less stressed than those who did not.

The instruments used in this study posed a third limitation. Although efforts were made to use instruments for which reliabilities and validities were previously established, self-report questionnaires are inherently limited by the ability and desire of the participants to answer them truthfully and accurately. All responses were thus subject to the biases and limitations of misunderstanding, memory, and social desirability. It was believed, however, that the subjects' current subjective perceptions were powerful predictors of their current attitudes, beliefs and values. The five established instruments have not been used with this particular population before and the demographic questionnaire designed by the investigator was pilot tested with only a narrow subsample of the total population. The accuracy and validity of measurement of the independent and dependent variables was therefore dependent on the reliability and validity of the instruments used with this particular sample. Thus, error in measurement of the instruments may have had an impact on the validity, reliability, and significance of the results.

Implications

This study has implications in several areas. There are implications for the status of the literature and for the direction of future research on women in professional training, as well as for the use of theoretical model of stress in research on these women. This study also has

implications for counseling women who either are planning to engage in advanced professional training or are currently engaged in such training.

The women in this study were fairly homogeneous: young, Caucasian, with a narrow range of role combinations. They reported low levels of stress, positive assessments of life satisfaction and the quality of their roles, and a high degree of social support from friends. To explore whether these findings are a function of a unique sample of high-achieving women attending highly prestigious institutions, the study might be replicated on a number of campuses in diverse regions of the United States that vary in prestige level. Findings might indicate whether women in professional training on other campuses differ significantly in terms of demographics, stress, life satisfaction, role quality appraisal and social support as a function of institutional prestige. They might also reveal whether limited or complex role configurations are the norm for this population.

Given that half the sample polled did not return the questionnaires, a study might be undertaken to identify and inquire further of the non-respondents their reasons for not completing the survey. Perhaps in the same study or in a different one, in-depth personal interviews could be conducted to ascertain alternate sources of stress and life satisfaction (especially from family roles) operating for women engaged in professional graduate education that were

not examined in the present study. Some alternate sources to be explored might include both person-based and institution-based factors such as personality characteristics, coping styles, admission criteria, and academic climate for women, among others. Alternatively, a study could be designed which included both men and women in the sample to explore whether gender differences in patterns of responding are in evidence.

Finally, studies could be designed to address some of the issues students mentioned in their open-ended comments. These issues involve the supportiveness of significant love relationships between partners who do not live together, concerns about being single, finding potential mates, and building friendships, and the pressures arising from having a same sex gender orientation while training for a profession.

Aside from directions for future research, there are implications for transactional models of stress theories. The results of this study suggest that role appraisal and perceptions of social support can predict both stress and life satisfaction. Transactional stress models are not only applicable in predicting the influence of life events on well-being outcomes, they are useful in more sociological contexts as well. The concept of cognitively mediated transactions has a place in the arena of multiple role research. It is not just the presence of competing role demands or specific life events that influence a

person's well-being but the personal meaning and cost-benefit evaluation attributed to them as well.

Implications for counseling women may be drawn from the results of this study. The older (over 30) woman with a partner and/or children needs to be targeted for special attention. She will in all likelihood look and feel different from the majority of her peers in professional training. She may have special needs for instrumental support and services, such as child care and family health coverage and resources. She may need couples and family counseling and family planning guidance.

Regardless of age or family configurations, women engaged in professional graduate education report the great importance of social support from friends. Many, or even most, may already be quite skillful in establishing and mobilizing supportive friendships, but counselors might be aware that this will probably not be universally true. Friendship is an area to be sensitive to and at least inquire about. Similarly, dating and non-cohabiting partner relationships are likely to be areas of concern among this population. Many respondents indicated apprehension about finding and maintaining serious relationships while so busy and preoccupied with their studies. Finally, who prefer same sex relationships appear to have special needs that are currently not being addressed.

Summary

The results of this study suggest that women engaged in graduate professional education do experience stress but not at levels considered disabling. Despite their stresses they report satisfaction with their lives. They appraise their roles as having more rewards than concerns, although the differences were less than expected. In particular, they derive high levels of social support from friends. The homogeneity of the sample in terms of age and simplicity of role combinations, along with other dimensions, resulted in a minimal spread of scores among the dependent and independent variables such that high correlations were not possible. Although there were not any especially strong correlations, the strongest predictors were appraisal of role quality and social support for stress (8%) and appraisal of role quality, social support, and the role combination of student, partner, mother (17%) for life satisfaction. Implications for research, theory, and counseling were suggested.

REFERENCES

- ★ Almqvist, E. M., & Angrist, S. S. (1970). Career salience and atypicality of occupational choice among college women. Journal of Marriage and the Family, 32, 242-249.
- Amatea, E.S. & Cross, E. G. (1981). Competing worlds, competing standards: Personal control for the professional career woman, wife, and mother. Journal of the National Association for Women Deans, Administrators, & Counselors, 44, 3-10.
- Amatea, E.S., Cross, E. G., Clark, J.E., & Bobby, C. (1986). Work and family roles expectations: The life role salience scales. Journal of Marriage and Family, 48, 831-838.
- Amatea, E. S., & Fong, M. (1987). Through a different lens: Examining professional women's interrole coping by focus and modes. Sex Roles: A Journal, 17, 237-250.
- Amatea, E. S., & Fong, M. L. (1989) The impact of role stressors and personal resources on the stress experience of professional women. Unpublished manuscript.
- Astin, H. (1973). Career profiles of women doctorates. In A. S. Rossi & A. Calderwood (Eds.), Academic Women on the Move (pp. 139-161). New York: Russell Sage Foundation.
- Barnett, R. C. (1982). Multiple roles and well-being: A Study of mothers of preschool age children. Psychology of Women Quarterly, 7, 175-178.
- Barnett, R.C. & Baruch, G. (1985). Women's involvement in multiple roles and psychological distress. Journal of Personality and Social Psychology, 49, 135-145.

- Barnett, R. C., & Baruch, G. (1987a). Mothers' participation in childcare: Patterns and consequences. In F. J. Crosby (Ed.), Spouse, parent, worker: On gender and multiple roles (pp. 91-108). New Haven: Yale University Press.
- Barnett, R. C., & Baruch, G. (1987b). Social roles, gender, and psychological distress. In Baruch, G. K., Biener, L., & Barnett, R. C. (Eds.), Gender and stress (pp. 122-143). New York: Free Press.
- Baruch, G. K., & Barnett, R. C. (1986). Role quality, multiple role involvement, and psychological well-being in midlife women. Journal of Personality and Social Psychology, 51, 578-585.
- Baruch, G., & Barnett, R. C. (1987). Role Quality and psychological well-being. In F. J. Crosby (Ed.), Spouse, parent, worker: On gender and multiple roles (pp. 63-73). New Haven: Yale University Press.
- Baruch, G. K., Biener, L., & Barnett, R. C. (Eds.), (1987a). Gender and Stress. New York: Free Press.
- Baruch, G. K., Biener, L., & Barnett, R. C. (1987b). Women and gender in research on work and family stress. American Psychologist, 42, 130-136.
- Beckman, L. J. (1978). The relative rewards and costs of parenthood and employment for employed women. Psychology of Women Quarterly, 2, 215-234.
- Belle, D. (1987). Gender differences in the social moderators of stress. In Baruch, G. K., Biener, L., & Barnett, R. C. (Eds.), Gender and stress (pp. 257-277). New York: Free Press.
- Betz, E. L. (1984). A study of career patterns of women college graduates. Journal of Vocational Behavior, 24, 249-263.
- Beutell, N. J., & Greenhaus, J. H. (1982). Interrole conflict among married women: The influence of husband and wife characteristics on conflict and coping behavior. Journal of Vocational Behavior, 21, 99-110.
- Billings, A. G., & Moos, R. H. (1981). The role of coping responses and social resources in attenuating the stress of life events. Journal of Behavioral Medicine, 4, 139-157.

- Birnbaum, J. A. (1975). Life patterns and self esteem in gifted, family oriented and career committed women. In M. T. S. Mednick, S. S. Tangri, & L. W. Hoffman (Eds.), Women and achievement (pp. 396-419). Washington, DC: Hemisphere.
- Brown, D. R., & Gary, L. E. (1985). Social support network differential among married and nonmarried black females. Psychology of Women Quarterly, 2, 29-241.
- Brown, G. W., & Harris, T. (1978). Social origins of depression: A study of psychiatric disorder in women. New York: Free Press.
- Butler, M., & Marzone, J. (1980). Education: The critical filter. Vol. 2 Women's educational equity communications network. U.S. Department of Health, Education, and Welfare: Office of Education Under the Auspices of the Women's Educational Equity Act.
- Cartwright, L. K. (1970). Women in medical school. Unpublished doctoral dissertation, University of California, Berkeley.
- Cartwright, L. K. (1978). Career satisfaction and role harmony in a sample of young women physicians. Journal of Vocational Behavior, 12, 184-196.
- Cartwright, L. K. (1979). Sources and effects of stress in health careers. In G. Stone, F. Cohen, N. Adler, & Associates (Eds.), Health psychology--a handbook: Theories, applications, and challenges of a psychological approach to the health care system (pp. 419-445). San Francisco: Jossey-Bass Publishers.
- Cartwright, L. K. (1987). Role montage: Life patterns of professional women. Journal of the American Medical Women's Association, 42, 142-148.
- Cassel, J. (1976). The contribution of the social environment to host resistance. American Journal of Epidemiology, 104, 107-123.
- Cleary, P. D. (1987). Gender differences in stress-related disorders. In Baruch, G. K., Biener, L., & Barnett, R. C. (Eds.), Gender and stress (pp. 39-72). New York: Free Press.
- Cobb, S. (1976). Social support as a moderator of life stress. Psychosomatic Medicine, 38, 300-314.

- Coleman, L. M., Antonucci, T. C., & Adelman, P. K. (1987). Role Involvement, gender, and well-being. In F. J. Crosby (Ed.), Spouse, parent, worker: On gender and multiple roles (pp. 138-153). New Haven: Yale University Press.
- Cooke, R. A., & Rousseau, D. M. (1984). Stress and strain from family roles and work-role expectations. Journal of Applied Psychology, 69, 252-260.
- Coser, L. (1974). Greedy institutions. New York: Free Press.
- Coser, R. L. & Rokoff, G. (1971). Women in the occupational world: Social disruption and conflict. Social Problems, 18, 535-554.
- Crosby, F.J. (Ed.), (1987). Spouse, parent, worker: On gender and multiple roles. New Haven: Yale University Press.
- De Araujo, G. P., Van Arsdell, Jr., Holmes, T.H., & Dudley, D. (1973). Life change, coping ability, and chronic intrinsic asthma. Journal of Psychosomatic Research, 17, 359-373.
- Derogatis, L. R., Lipman, R. S., Rickels, K., & Covi, L. (1974). The Hopkins symptom check list (HSCL): A self report symptom inventory. Behavioral Science, 19, 1-15.
- Eaton, W. (1978). Life events, social supports, and psychiatric symptoms: A re-analysis of the New Haven data. Journal of Health and Social Behavior, 19, 230-234.
- Epstein, C. F. (1970). Woman's Place: Options and limits in professional careers. Berkeley: University of California Press.
- Epstein, C. F. (1987). Multiple demands and multiple roles: The conditions of successful management. In F. J. Crosby (Ed.), Spouse, parent, worker: On gender and multiple roles (pp. 23-35). New Haven: Yale University Press.
- Feldman, S. D. (1974). Escape from the doll's house: Women in graduate and professional school education. New York: McGraw-Hill.

- Fowlkes, M. R. (1987). Role combinations and role conflict: Introductory perspective. In F. J. Crosby (Ed.), Spouse, parent, worker: On gender and multiple roles (pp. 3-9). New Haven: Yale University Press.
- Gallesse, L. R. (1985). Women like us: What is happening to the women of the Harvard business school, class of '75--the women who had the first chance to make it to the top. New York: William Morrow and Company, Inc.
- Gappa, J. A. & Uehling, B. S. (1979). Women in academe: Steps to greater equality. (AAHE-ERIC/Higher Education Research Report No. 1). Washington, D.C.: The George Washington University. (ERIC Clearinghouse on Higher Education)
- Gibbs, J. T. (1984). Conflicts and coping strategies of minority female graduate students. In B. W. White (Ed.), Color in a white society (pp. 22-36). Silver Spring, Maryland: National Association of Social Workers.
- Gilbert, L. A. & Hanson, G. R. (1983). Perceptions of parental role responsibilities among working people: Development of a comprehensive measure. Journal of Marriage and the Family, 45, 203-212.
- Gilbert, L. A., Holahan, C. K., & Manning, L. (1981). Coping with conflict between parental and maternal roles. Family Relations, 30, 71-79.
- Goode, W. J. (1960). Theory of role strain. American Sociological Review, 25, 483-496.
- Gordon, H. A., & Kammeyer, K. C. W. (1980). The gainful employment of women with small children. Journal of Marriage and the Family, 42, 327-336.
- Gore, S. (1978). The effect of social support in moderating the health consequences of unemployment. Journal of Health and Social Behavior, 19, 157-165.
- Gove, W. R., & Zeiss, C. (1987). Multiple roles and happiness. In F. J. Crosby (Ed.), Spouse, parent, worker: On gender and multiple roles (pp. 125-137). New Haven: Yale University Press.
- Graham, P. A. (1972). Women in academe. In C. Safilios-Rothschild (Ed.), Toward a sociology of women (pp. 261-275). Lexington, Massachusetts: Xerox College Publishing.

- Griffith, J. W. (1983a). Women's stressors according to age groups: Part I. Issues in Health Care of Women, 6, 311-326.
- Griffith, J. W. (1983b). Women's stressors according to age groups: Part II. Issues in Health Care of Women, 6, 327-340.
- Hall, D. T. (1972). A Model of Coping with role conflict: The role behavior of college educated women. Administrative Science Quarterly, 17, 471-486.
- Hall, F. S., & Hall, D. T. (1979). The two career couple. Reading, Massachusetts: Addison-Wesley.
- Hall, R. M. & Sandler, B. R. (1982). The classroom climate: A chilly one for women? Project on the Status and Education of Women, Association of American Colleges. Washington, D.C.
- Harrison, A. O., & Minor, J. H. (1982). Interrole conflict, coping strategies, and role satisfaction among single and married employed mothers. Psychology of Women Quarterly, 6, 354-360.
- Hoffman, L. W. (1973). The professional woman as mother. Annals of the New York Academy of Sciences, 208, 211-217.
- Holahan, C. K. & Gilbert, L. A. (1979a). Conflict between major life roles: Women and men in dual career couples. Human Relations, 32, 451-467.
- Holahan, C. K. & Gilbert, L. A. (1979b). Interrole conflict for working women: Career versus jobs. Journal of Applied Psychology, 64, 86-89.
- Holahan, C. J., & Moos, R. H. (1981). Social support and psychological distress: A longitudinal analysis. Journal of Abnormal Psychology, 90, 365-370.
- Holahan, C. J., & Moos, R. H. (1982). Social support and adjustment: Predictive benefits of social climate indices. American Journal of Community Psychology, 10, 403-415.
- Holmes, T. H. & Rahe, R. H. (1967). The social readjustment rating scales. Journal of Psychosomatic Research, 11, 213-218.
- Jacobson, D. E. (1986). Types and timing of social support. Journal of Health and Social Behavior, 27, 250-264.

- Johnson, F. A., & Johnson, C. L. (1976). Role strain in high commitment career women. Journal of the American Academy of Psychoanalysis, 4, 13-36.
- Kandel, D. B., Davies, M., & Raveis, V. H. (1985). The stressfulness of daily social roles for women: Marital, occupational and household roles. Journal of Health and Social Behavior, 26, 64-78.
- Kanner, A. D., Coyne, J. C., Schaefer, C., & Lazarus, R. S. (1981). Comparison of two modes of stress measurement: Daily hassles and uplifts versus major life events. Journal of Behavioral Medicine, 4, 1-39.
- Kaplan, H. B., Robbins, C., & Martin, S. S. (1983). Antecedents of psychological distress in young adults: Self-rejection, deprivation of social support, and life events. Journal of Health and Social Behavior, 24, 230-244.
- Keith, P. M., & Schafer, R. B. (1980). Role strain and depression in two-job families. Family Relations, 29, 483-488.
- Kobasa, S. C. (1979). Stressful life events, personality, and health: An inquiry into hardiness. Journal of Personality and Social Psychology, 37, 1-11.
- Kobasa, S. C. (1982). Commitment and coping in stress resistance among lawyers. Journal of Personality and Social Psychology, 42, 707-717.
- Kobasa, S. C. (1987). Stress responses and personality. In Baruch, G. K., Biener, L., & Barnett, R. C. (Eds.), Gender and stress (pp. 308-329). New York: Free Press.
- Kobasa, S., Maddi, S. S., & Courington, S. (1981). Personality and constitution as mediators in the stress-illness relationship. Journal of Health and Social Behavior, 22, 368-378.
- Kobasa, S., Maddi, S. R., & Kahn, S. (1982). Hardiness and health: A prospective study. Journal of Personality and Social Psychology, 42, 168-177.
- Kobasa, S. C., & Puccetti, M. C. (1983). Personality and social resources in stress resistance. Journal of Personality and Social Psychology, 45, 839-850.
- LaRocco, J. M., House, J. S., & French, J. R. P. (1980). Social support, occupational stress, and health. Journal of Health and Social Behavior, 21, 202-218.

Lazarus, R. S. (1984). Puzzles in the study of daily hassles. Journal of Behavioral Medicine, 7, 375-389.

Lazarus, R. S. & DeLongis, A. (1983). Psychological stress and coping in aging. American Psychologist, 38, 245-254.

Lazarus, R. S., DeLongis, A., Folkman, S., & Gruen, R. (1985). Stress and adaptational outcomes: The problem of confounded measures. American Psychologist, 40, 770-779.

Lazarus, R. S., & Folkman, S. (1984). Stress, coping, and appraisal. New York: Springer.

Lazarus, R. S., & Launier, R. (1978). Stress-related transactions between person and environment. In L. A. Pervin & M. Lewis (Eds.), Perspectives in interactional psychology (pp. 287-327). New York: Plenum Press.

★ Levitt, E.S. (1971). Vocational development of professional women: A review. Journal of Vocational Behavior, 1, 375-385.

Lewis, S., & Cooper, C. L. (1983). The stress of combining occupational and parental roles: A review of the literature. Bulletin of the British Psychological Society, 36, 341-345.

Lin, N., Dean, A., & Ensle, W. (1981). Social support scales: A methodological note. Schizophrenia Bulletin, 7, 73-89

Lin, N., Ensle, W. M., Simeone, R. S., Kuo, W. (1979). Social support, stressful life events, and illness: A model and an empirical test. Journal of Health and Social Behavior, 20, 108-119.

Lowenthal, J. F., & Haven, C. (1968). Interaction and adaptation: Intimacy as a critical variable. American Sociological Review, 33, 20-30.

Marks, S. R. (1977). Multiple roles and roles strain: Some Notes on human energy, time, and commitment. American Sociological Review, 42, 921-936.

★ Marshall, S. J., & Wijting, J. P. (1980). Relationships of achievement motivation and sex-role identity to college women's career orientation. Journal of Vocational Behavior, 16, 299-311.

- McGoldrick, M. & Carter, E. A. (1982). The family life cycle. In F. Walsh (Ed.), Normal family processes (pp. 167-195). New York: The Guilford Press.
- McMillen, L. (1986, September 10). Tomorrow's professorate: Women flock to graduate school in record numbers, but fewer blacks are entering the academic pipeline. The Chronicle of Higher Education, pp. 1, 25.
- Mead, M. (1972). Is college compatible with marriage? In C. Safilios-Rothschild (Ed.), Toward a sociology of women. Lexington, Massachusetts: Xerox College Publishing.
- Medalie, J. H. & Goldbourt, U. (1976). Angina pectoris among 10,000 men: Psychosocial and other risk factors as evidenced by a multivariate analysis of a five-year incidence study. American Journal of Medicine, 60, 910-921.
- Mellow, G. O. & Goldsmith, D. (1988). Small indignities large affronts: A qualitative study of graduate life. Storrs, Connecticut: University of Connecticut, The Status of Women at the University of Connecticut.
- Merton, R. K. (1957). Social structure. Glencoe, Illinois: The Press Press.
- Miller, P. & Ingham, J. (1976). Friends, confidants and symptoms. Social Psychiatry, 11, 51-57.
- Mueller, D. P. (1980). Social networks: A promising direction for research on the relationship of the social environment to psychiatric disorder. Social Science and Medicine, 14A, 147-161.
- Murawski, B., Penman, D., & Schmitt, M. (1978). Social support in health and illness: The concept and its measurement Cancer Nursing, 1, 365-371.
- National Research Council. (1987). Highlights from the 1987 survey of earned doctorates. Washington, D.C: Office of Scientific and Engineering Personnel.
- Nevill, D. D. (1984). The meaning of work in women's lives: Role conflict, preparation, and change. Counseling Psychologist, 12, 131-133.
- Nevill, D., & Damico, S. (1975). Role conflict in women as a function of marital status. Human Relations, 28, 487-498.

- Norbeck, J. S., Lindsey, A. M., & Carrieri, V. L. (1981). The development of an instrument to measure social support. Nursing Research, 30, 264-269.
- Nuckolls, K. B., Cassel, J., & Kaplan, B.H. (1972). Psychosocial assets, life crisis and the prognosis of pregnancy. American Journal of Epidemiology, 95, 431-441.
- Nye, F. I. (1963). Personal satisfaction. In F. I. Nye & L. W. Hoffman (Eds.), The employed mother in America (pp. 320-330). Chicago: Rand McNally.
- Ottinger, C. A. (Ed.), (January, 1987). Higher education today: Facts in brief (pp. 16-17). American Council on Education, Division of Policy Analysis and Research.
- Patterson, M., & Sells, L. (1973). Women dropouts from higher education. In A. S. Rossi, & A. Calderwood (Eds.), Academic women on the move (pp.79-91). New York: Russell Sage Foundation.
- Pearlin, L. I. (1983). Role strains and personal stress. In H. Kaplan (Ed.), Psychosocial stress: Trends in theory and research (pp. 3-32). New York: Academic Press.
- Pearlin, L.I., Menaghan, E.G., Lieberman, M.A., & Mullan, J.T. (1981). The stress process. Journal of Health and Social Behavior, 22, 337-356.
- Pearlin, L. I., & Schooler, C. (1978). The structure of coping. Journal of Health and Social Behavior, 19, 2-21.
- Poloma, M. M. (1972). Role conflict and the married professional woman. In C. Safilios-Rothschild (Ed.), Toward a sociology of women (pp. 187-198). Lexington, Massachusetts: Xerox College Publishing.
- Poloma, M. M. & Garland, T. N. (1971). The married professional woman: A study in the tolerance of domestication. Journal of Marriage and the Family, 33, 531-540.
- Procidano, M. E., & Heller, K. (1983). Measures of perceived social support from friends and from family: Three validation studies. American Journal of Community Psychology, 11, 1-24.

- Robinson, S. L., Rotter, M. F., & Wilson, J. (1982). Mothers' contemporary career decisions: Impact on the family. Personnel and Guidance Journal, 60, 535-538.
- Roby, P. (1972). Structural and internalized barriers to women in higher education. In C. Safilios-Rothschild (Ed.), Toward a sociology of women (pp. 121-138). Lexington, Massachusetts: Xerox College Publishing.
- Sandler, B. R. & Hall, R. M. (1986). The campus climate revisited: Chilly for women faculty, administrators, and graduate students. Washington, D.C.: Project on the Status and Education of Women, Association of American Colleges.
- Sarason, I. G. (1980). Life stress, self-preoccupation, and social supports. In I. G. Sarason & C. D. Spielberger (Eds.), Stress and anxiety: Volume 7. (pp. 73-92). Washington, D. C.: Hemisphere Publishing Corporation.
- Sarason, I. G., Levine, H. M., Basham, R. B., & Sarason, B. (1983). Assessing social support: The social support questionnaire. Journal of Personality and Social Psychology, 44, 127-139.
- Sarason, I. G., Sarason, B., & Johnson, J. H. (1985). Stressful life events: Measurement, moderators, and adaptation. In S. R. Burchfield (Ed.), Stress: Psychological and physiological interactions (pp. 241-261). Washington, D. C.: Hemisphere Publishing Corporation.
- Sarason, I. G., Sarason, B., Potter, E. H., & Antoni, M. H. (1985). Life events, social support, and illness. Psychosomatic Medicine, 47, 156-162.
- Schaefer, C., Coyne, J. C., & Lazarus, R. S. (1981). The health-related functions of social support. Journal of Behavioral Medicine, 4, 381-406.
- Schwartz, F. N. (January-February 1989). Management women and the new facts of life. Harvard Business Review, 89, 1, 65-76.
- Schwartz, P. and Lever, J. (1973) Women in the male world of higher education. In A. S. Rossi and A. Calderwood (Eds), Academic women on the move (pp. 57-77). Russell Sage Foundation, New York.
- Sekaran, U. (1985). How husbands and wives in dual-career families perceive their family and work worlds. Journal of Vocational Behavior, 22, 288-301.

- Siebert, S.D. (1974). Toward a theory of role accumulation. American Sociological Review, 39, 567-578.
- Simon, R. J., Clark, S. M. & Galway, K. (1975). In M. T. S. Mednick, S. S. Tangri, & L. W. Hoffman (Eds.), Women and achievement (pp. 355-371). Washington, DC: Hemisphere.
- Skinner, D. A. (1980). Dual-career family stress and coping: A literature review. Family Relations, 29, 473-480.
- Skinner, D. A. (1983). Dual career families: Strains of sharing. In H. I. McCubbin & C. R. Figley (Eds.), Stress and the Family, Volume I: Coping with normative transitions (pp.90-101). New York: Brunner/Mazel.
- Slater, P. (1963). On social regression. American Sociological Review, 28, 339-364.
- Staines, G. L., Pleck, J. H., Shepard, L. J., & O'Connor, P. (1978). Wives' employment status and marital adjustment: Yet another look. Psychology of Women Quarterly, 3, 90-120.
- Statistics reveal entry of women into professions. (1985, Fall). Civil Rights Forum, U.S. Department of Justice, Civil Rights Division, 8, pp. 1, 3, 10.
- Stewart, A. J., & Malley, J. E. (1987). Role Combination in women: Mitigating agency and communion. In F. J. Crosby (Ed.), Spouse, parent, worker: On gender and multiple roles (pp. 44-62). New Haven: Yale University Press.
- Stewart, A.J., & Salt, P. (1981). Life stress, life-styles, depression, and illness in adult women. Journal of Personality and Social Psychology, 40, 1063-1069.
- Tardy, C. H. (1985). Social support measurement. American Journal of Community Psychology, 13, 187-202.
- Thoits, P. A. (1982). Conceptual, methodological, and theoretical problems in studying social support as a buffer against life stress. Journal of Health and Social Behavior, 23, 145-159.

- Thoits, P. A. (1983a). Dimensions of life events that influence psychological distress: An evaluation and synthesis of the literature. In Kaplan, H. B. (Ed.), Psychosocial stress: Trends in theory and research (pp. 33-103). New York: Academic Press.
- Thoits, P. A. (1983b). Multiple identities and psychological well-being: A reformulation and test of the social isolation hypothesis. American Sociological Review, 48, 174-187.
- Thoits, P. A. (1987). Negotiating roles. In F. J. Crosby (Ed.), Spouse, parent, worker: On gender and multiple roles (pp. 11-22). New Haven: Yale University Press.
- Turner, R. J. (1981). Social support as a contingency in psychological well-being. Journal of Health and Social Behavior, 22, 357-367.
- Turner, R. J. (1983). Direct, indirect, and moderating effects of social support on psychological distress and associated conditions. In Kaplan, H. B. (Ed.), Psychosocial stress: Trends in theory and research (pp. 105-155). New York: Academic Press.
- Turner, R. J., Frankel, B. G., & Levin, D. M. (1983). Social support: Conceptualization, measurement, and implications for mental health. Research in Community and Mental Health, 3, 67-111.
- Van Meter, M. J. S., & Agronow, S. J. (1982). The stress of multiple roles: The case for role strain among married college women. Family Relations, 33, 131-136.
- Verbrugge, L. M. (1983a). Multiple roles and physical health of women and men. Journal of Health and Social Behavior, 24, 16-30.
- Verbrugge, L. M. (1983b). Pressures, satisfactions, and their link to physical health of young women. Women of childbearing age at work: Stress and health. Symposium conducted at the 91st annual convention of the American Psychological Association (Anaheim, CA, August 26-30).
- Verbrugge, L. M. (1987). Role responsibilities, role burdens and physical health. In F. J. Crosby (Ed.), Spouse, parent, worker: On gender and multiple roles (pp. 154-166). New Haven: Yale University Press.

- Vingerhoets, A. (1985). Psychosocial stress: An experimental approach: Life events, coping and psychobiological functioning. Lisse, Holland: Swets & Zeitlinger.
- White, J. J. (1972). Women in the law. In C. Safilios-Rothschild (Ed.), Toward a sociology of women (pp. 277- 299). Lexington, Massachusetts: Xerox College Publishing.
- White, M. S. (1972). Psychological and social barriers to women in science. In C. Safilios-Rothschild (Ed.), Toward a sociology of women (pp. 300-307). Lexington, Massachusetts: Xerox College Publishing.
- * Yogeve, S. (1983). Judging the professional woman: Changing research, changing values. Psychology of Women Quarterly, 7, 219-234.
- Yorburg, B., & Arafat, I. (1975). Current sex role conceptions and conflict. Sex Roles, 1, 135-145.

APPENDIX A
COVER LETTER

UNIVERSITY OF CALIFORNIA, BERKELEY

BERKELEY • DAVIS • DIVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

STUDENT LEARNING CENTER

BERKELEY, CALIFORNIA 94720

Dear Professional in Training,

Your name was randomly selected from a pool of women enrolled as students in doctoral, dental, law and medical programs at the University of California at Berkeley and San Francisco. I realize that as a fulltime student in a professional training program you are more than busy. As a doctoral candidate at the University of Florida, Learning Skills counselor at UC Berkeley, mother and wife, I appreciate the monumental efforts it can sometimes take to keep everything going. That is exactly why I am inviting your participation in this research project.

I am conducting a study of women who are pursuing professional training to investigate what impact their various life roles have on them while they are involved in their studies. Participation in this study is voluntary. It involves responding to a four page questionnaire that takes between 20 and 45 minutes to complete, depending on the number of roles a person has.

I am unable to provide any monetary compensation to participants, however, I can forward summary results to those who request them. I do not anticipate any risks to those who choose to participate. It is my hope that respondents will derive some satisfaction from contributing to the understanding of the professional and graduate and professional student experience. Your responses, taken collectively, may be used to improve the conditions for graduate study for future students.

All responses are anonymous and confidential. Individuals receive code numbers which will be separated from names and addresses at the time of encoding and analysis of data. All results of this study will be reported as group data that is devoid of any individual identifiers. The results of this study may be used for educational purposes which may include publication. If such does occur, anonymity of participants is assured.

If you have any questions or concerns please feel free to leave a message with the most convenient times to reach you on my answer machine ((415) 591-2191) and I will return your call as quickly as possible.

Thank you for taking the time to read and consider this invitation. I hope to hear from you soon.

Sincerely,

Coralie R. Scherer

Coralie R. Scherer

APPENDIX B
WOMEN IN PROFESSIONAL TRAINING STUDY QUESTIONNAIRE

Women in Professional Training Study Questionnaire

Introduction to Respondent

The purpose of this project is to learn about the perceived experiences of persons engaged in professional level graduate training. This is your copy of the special survey questionnaire. Please answer the questions as frankly and as accurately as you can. We are interested in your answers, so please don't talk about the questions with anyone else until you have finished. All information obtained in this study will be kept confidential. Only statistical summaries will be used; no one will be identified.

A WORD ABOUT FILLING OUT THIS QUESTIONNAIRE:

*Please do NOT write your name anywhere on the questionnaire. To ensure that all information you provide will remain strictly confidential, we want your answers to be anonymous.

*If at all possible, please try to find a block of time and a place of few distractions in which to respond to the questionnaire in one sitting.

*Please try to answer every question (except those we ask you to skip). If you're not sure of the answer, please give us your best estimate. If you think your answer might be misleading, please feel free to add a note of explanation on the questionnaire.

*Please answer ALL questions ON THE BOOKLET.

*Most questions can be answered simply by checking the box beside the statement that best fits your situation. For MOST questions, you should check only one answer.

i.e. Are you currently a student ? 1=Yes 2=No. [1] ☒ [2]

Other acceptable marks

[1] [2] ☒ [4]

[1] [2] ☒ [4]

[1] [2] ☒ [4]

*If there are any questions you prefer not to answer, please omit those and answer the rest. We will greatly appreciate your answers to most, if not all, the questions.

*When you have finished answering the questions please return the questionnaire booklet to the original mailing envelope, taking care that it does not become folded or otherwise damaged. Remove the backing of the enclosed return label and apply it over the label with your address. Affix the enclosed postage stamps in the upper right hand corner of the original envelope. Please return the questionnaire as soon as possible, within the next few weeks if possible.

*If any questions are confusing or if you have other questions and comments, please feel free to call (415) 591-2191. Leave a message on the machine with the telephone number(s) and most convenient times to reach you and your call will be promptly returned.

THANK YOU VERY MUCH FOR YOUR HELP

1. STUDENT ROLE

A. Are you enrolled as a student this term?

1= Yes 2= NO---->PLEASE STOP! Do not complete this questionnaire.....[1] [2]

B. Please indicate the number of hours or units of credit for which you are enrolled:

C. Please indicate the University you primarily attend:.....[1] [2]

1= University of California at Berkeley
2= University of California at San Francisco

D. Please indicate the graduate training program in which you are enrolled:

1= Dental 2= Law 3= Medicine 4= Optometry 5= Doctorate in [1] [2] [3] [4] [5]
College and Major Area

E. Please indicate your year in the program

1= First 2= Second 3= Third 4= Fourth 5= Other [1] [2] [3] [4] [5]

F. If you are in a doctoral program, have you advanced to candidacy? 1= Yes 2= No [1] [2]

Directions: We are interested in learning about both the good things and bad things in different parts of women's lives--the gratifying or rewarding things and also the problems and difficulties.

G. STUDENT ROLE REWARDS

When you think about being a student, how much, if at all, are the following items a rewarding part of your current involvement in schooling.

1= Not at all 2= Somewhat 3= Considerably 4= Extremely

How rewarding is:

1. Having courses that fit your interests/needs [1] [2] [3] [4]
2. Feeling secure about your standing in your program..... [1] [2] [3] [4]
3. The appreciation and recognition you get [1] [2] [3] [4]
4. Liking the faculty in your program..... [1] [2] [3] [4]
5. Liking your advisor/chair [1] [2] [3] [4]
6. Having a sense of accomplishment/competence..... [1] [2] [3] [4]
7. Doing a variety of tasks..... [1] [2] [3] [4]
8. The opportunity for learning..... [1] [2] [3] [4]
9. Liking your fellow students..... [1] [2] [3] [4]
10. Getting to work closely with faculty..... [1] [2] [3] [4]
11. Being able to work on your own [1] [2] [3] [4]
12. Studying in a field that fits your interests and needs [1] [2] [3] [4]
13. Receiving financial support (assistantships, fellowships, grants, etc.) for your studies [1] [2] [3] [4]
14. Having good support facilities (learning resources, access to faculty, etc.) [1] [2] [3] [4]
15. Having opportunities for mentorship and future career advancement..... [1] [2] [3] [4]
16. Having challenging and stimulating studies..... [1] [2] [3] [4]
17. Getting to make decisions..... [1] [2] [3] [4]

H. STUDENT ROLE CONCERNS

When you think about being a student, how much, if at all, are the following items a current concern for you?

1= Not at all 2= Somewhat 3= Considerably 4= Extremely

How much of a concern is:

- | | | | | |
|---|-----|-----|-----|-----|
| 18. Having too much to do | [1] | [2] | [3] | [4] |
| 19. Feeling insecure about your standing in your program | [1] | [2] | [3] | [4] |
| 20. Your studies conflicting with other responsibilities | [1] | [2] | [3] | [4] |
| 21. Not liking your advisor /chair | [1] | [2] | [3] | [4] |
| 22. Having to juggle conflicting tasks (i.e. coursework, fieldwork, etc.) | [1] | [2] | [3] | [4] |
| 23. Not getting assistantships you want/deserve | [1] | [2] | [3] | [4] |
| 24. Education/training program not fitting your skills/interests | [1] | [2] | [3] | [4] |
| 25. Curriculum is too regimented | [1] | [2] | [3] | [4] |
| 26. Having to study/train in bad physical conditions | [1] | [2] | [3] | [4] |
| 27. Lack of recognition/appreciation | [1] | [2] | [3] | [4] |
| 28. Lack of challenge | [1] | [2] | [3] | [4] |
| 29. Dissatisfaction with your grades | [1] | [2] | [3] | [4] |
| 30. Problems regarding being a woman | [1] | [2] | [3] | [4] |
| 31. Having to do unnecessary busywork (i.e. in order to fulfill educational requirements; things not relevant to my career goals) | [1] | [2] | [3] | [4] |
| 32. Lack of opportunity for sponsorship/mentorship for future career advancement | [1] | [2] | [3] | [4] |
| 33. Lack of challenge | [1] | [2] | [3] | [4] |
| 34. Not liking the faculty | [1] | [2] | [3] | [4] |
| 35. The competition with other students | [1] | [2] | [3] | [4] |

II. WORKER ROLE

- I. Are you currently working for pay? (Please include teaching assistantships or research assistantships.)

1= Yes 2= No [1] [2]

IF YOU ARE NOT CURRENTLY WORKING FOR PAY SKIP TO Part III Question Q

- J. Are you currently working:
 1= Full-time 2= At least 50% time but less than 100% 3= Less than 50% time [1] [2] [3] [4]
- K. Are you satisfied with the amount of time you are employed?
 1= Don't work enough 2= Work about as much as I'd like 3= Work too much [1] [2] [3]
- L. Do you have more than one job? 1= Yes 2= No [1] [2]
- M. Is this work related to your intended profession? 1= Yes 2= No [1] [2]
- N. How long have you been at your current (Main) job?
 Years _____ Months _____

Below are some of the things women have said about their work. If you have more than one job, please answer in terms of your main job.

O. PAID WORKER ROLE REWARDS

How much, if at all, are the following items a rewarding part of your current (main) job?

1= Not at all 2= Somewhat 3= Considerably 4= Extremely

How rewarding is:

36. Having hours that fit your needs.....	[1]	[2]	[3]	[4]
37. The job security	[1]	[2]	[3]	[4]
38. The appreciation and recognition you get	[1]	[2]	[3]	[4]
39. Liking the people you work with	[1]	[2]	[3]	[4]
40. Liking your boss.....	[1]	[2]	[3]	[4]
41. Having a sense of accomplishment/competence.....	[1]	[2]	[3]	[4]
42. Doing a variety of tasks	[1]	[2]	[3]	[4]
43. The opportunity for learning.....	[1]	[2]	[3]	[4]
44. The physical conditions	[1]	[2]	[3]	[4]
45. Getting out of the house	[1]	[2]	[3]	[4]
46. Being able to work on your own	[1]	[2]	[3]	[4]
47. Helping others develop.....	[1]	[2]	[3]	[4]
48. Having a job that fits your interests and skills.....	[1]	[2]	[3]	[4]
49. Having a good income.....	[1]	[2]	[3]	[4]
50. Having good support facilities.....	[1]	[2]	[3]	[4]
51. Having opportunities for advancement.....	[1]	[2]	[3]	[4]
52. Having challenging and stimulating work	[1]	[2]	[3]	[4]
53. Getting to make decisions	[1]	[2]	[3]	[4]

P. PAID WORKER ROLE CONCERNS

How much, if at all, are the following items a concern for you in your current (main) job?

1= Not at all 2= Some what 3= Considerably 4= Extremely

How much of a concern is:

54. Having too much to do.....	[1]	[2]	[3]	[4]
55. Your job security.....	[1]	[2]	[3]	[4]
56. Your job conflicting with other responsibilities.....	[1]	[2]	[3]	[4]
57. Not liking your boss.....	[1]	[2]	[3]	[4]
58. Having to juggle conflicting tasks.....	[1]	[2]	[3]	[4]
59. Not getting the advancement you want/deserve.....	[1]	[2]	[3]	[4]
60. Your job not fitting your skills/interests.....	[1]	[2]	[3]	[4]
61. Your job is too regimented.....	[1]	[2]	[3]	[4]
62. Having bad physical conditions.....	[1]	[2]	[3]	[4]
63. Lack of recognition/appreciation.....	[1]	[2]	[3]	[4]
64. Your job's dullness/monotony.....	[1]	[2]	[3]	[4]
65. Dissatisfaction with your income.....	[1]	[2]	[3]	[4]
66. Problems regarding being a woman.....	[1]	[2]	[3]	[4]
67. Having to do things that are not part of your job.....	[1]	[2]	[3]	[4]
68. Lack of opportunity for career growth.....	[1]	[2]	[3]	[4]
69. Unnecessary busy work.....	[1]	[2]	[3]	[4]
70. Lack of challenge.....	[1]	[2]	[3]	[4]
71. The people you work with.....	[1]	[2]	[3]	[4]
72. The job is too draining.....	[1]	[2]	[3]	[4]

III. PARTNER ROLE

Q. Are you now married or living with someone in a marriage type relationship or separated, divorced or widowed?

1= Married 2= Living with a partner 3= Separated 4= Divorced 5= Widowed 6= Never married (1) (2) (3) (4) (5) (6)

IF SEPARATED, DIVORCED OR WIDOWED AND LIVING WITH A PARTNER GO TO Question R

IF NOT MARRIED, BUT LIVING WITH A PARTNER, GO TO Question R

IF SEPARATED, DIVORCED, WIDOWED OR NEVER MARRIED AND NOT CURRENTLY LIVING WITH A PARTNER, SKIP TO Part IV Question W.

R. How long have living with your present partner? _____ Years _____ Months

IF NOT MARRIED BUT LIVING WITH A PARTNER SKIP TO Question U

S. If married, how long have you been married to your current spouse? _____ Years _____ Months

T. Is this your first marriage? 1= Yes 2= No.....(1) (2)

U. PARTNER ROLE REWARDS

Here is another list of good and bad things women have mentioned about marriage/living together. When you think about your relationship with your spouse/partner, how much, if at all, is each of the following items a rewarding part of your relationship?

1= Not at all 2= Somewhat 3= Considerably 4= Extremely

How rewarding is:

- | | | | | |
|---|-----|-----|-----|-----|
| 73. Companionship..... | (1) | (2) | (3) | (4) |
| 74. Having someone to take care of you..... | (1) | (2) | (3) | (4) |
| 75. Partner is easy to get along with..... | (1) | (2) | (3) | (4) |
| 76. Physical affection..... | (1) | (2) | (3) | (4) |
| 77. Partner being a good parent..... | (1) | (2) | (3) | (4) |
| 78. Able to go to partner with problems..... | (1) | (2) | (3) | (4) |
| 79. The sexual relationship..... | (1) | (2) | (3) | (4) |
| 80. Partner backing you up..... | (1) | (2) | (3) | (4) |
| 81. Enjoyment of doing things for partner..... | (1) | (2) | (3) | (4) |
| 82. Partner sees you as special..... | (1) | (2) | (3) | (4) |
| 83. Partner is a good provider..... | (1) | (2) | (3) | (4) |
| 84. Partner's personality fits yours..... | (1) | (2) | (3) | (4) |
| 85. Partner's willingness to share housework..... | (1) | (2) | (3) | (4) |
| 86. Good communication..... | (1) | (2) | (3) | (4) |
| 87. Partner's willingness to have children..... | (1) | (2) | (3) | (4) |

V. PARTNER ROLE CONCERNS

How much, if at all, is each of the following items a concern currently in your relationship?

1= Not at all 2= Somewhat 3= Considerably 4= Extremely

How much of a concern is:

- | | | | | |
|--|-----|-----|-----|-----|
| 88. My partner's being unavailable..... | (1) | (2) | (3) | (4) |
| 89. Poor communication..... | (1) | (2) | (3) | (4) |
| 90. Partner's physical health..... | (1) | (2) | (3) | (4) |
| 91. Not getting enough appreciation..... | (1) | (2) | (3) | (4) |
| 92. Conflicts about children..... | (1) | (2) | (3) | (4) |
| 93. Partner's job/career problems..... | (1) | (2) | (3) | (4) |
| 94. Problems in sexual relationship..... | (1) | (2) | (3) | (4) |
| 95. Lack of companionship..... | (1) | (2) | (3) | (4) |
| 96. Partner's job instability..... | (1) | (2) | (3) | (4) |
| 97. Problems regarding demands of partner's job..... | (1) | (2) | (3) | (4) |
| 98. Partner has emotional problems..... | (1) | (2) | (3) | (4) |
| 99. Not getting along..... | (1) | (2) | (3) | (4) |
| 100. Conflict over housework..... | (1) | (2) | (3) | (4) |
| 101. Not getting enough emotional support..... | (1) | (2) | (3) | (4) |
| 102. Problems between the two of you because of each other's family..... | (1) | (2) | (3) | (4) |

IV. PARENT ROLE

W. Are you a parent? 1=Yes 2= Yes, and I am pregnant 3= No 4= No, but I am pregnant.....(1) (2) (3) (4)

SKIP TO Part V Question CC

X. How many children do you have? Circle One: 1 2 3 4 5 6 7 8 9 10 or more

Y. How many children live at home with you? Circle one: 1 2 3 4 5 6 7 8 9 10 or more

Z. Please list the ages of your children: _____

Here is another list of good things and bad things women have mentioned. This time they are about being a mother.

AA. MOTHER ROLE REWARDS

How much, if at all, is each of the following items rewarding for you as a mother?

1= Not at all 2= Somewhat 3= Considerably 4= Extremely

How rewarding is:

103. Being needed.....	(1)	(2)	(3)	(4)
104. Pleasure from their accomplishments.....	(1)	(2)	(3)	(4)
105. Helping them develop.....	(1)	(2)	(3)	(4)
106. The love they show.....	(1)	(2)	(3)	(4)
107. Feeling proud of how they are turning out.....	(1)	(2)	(3)	(4)
108. Liking the kind of people they are.....	(1)	(2)	(3)	(4)
109. Being able to go to them with problems.....	(1)	(2)	(3)	(4)
110. Enjoying doing things with them.....	(1)	(2)	(3)	(4)
111. The help they give you.....	(1)	(2)	(3)	(4)
112. The meaning they give your life.....	(1)	(2)	(3)	(4)
113. Being the best caretaker for them.....	(1)	(2)	(3)	(4)
114. The way they get along together.....	(1)	(2)	(3)	(4)
115. Seeing them mature and change.....	(1)	(2)	(3)	(4)
116. The way they change for the better.....	(1)	(2)	(3)	(4)

BB. MOTHER ROLE CONCERNS

How much, if at all, is each of the following items a concern for you as a mother?

1= Not at all 2= Somewhat 3= Considerably 4= Extremely

How much of a concern is?

117. The financial strain.....	(1)	(2)	(3)	(4)
118. Feeling trapped/bored.....	(1)	(2)	(3)	(4)
119. Worry about their physical well-being.....	(1)	(2)	(3)	(4)
120. Not getting along with each other.....	(1)	(2)	(3)	(4)
121. Heavy demands/responsibilities.....	(1)	(2)	(3)	(4)
122. Worry about the teenage years.....	(1)	(2)	(3)	(4)
123. Not sure if you're doing the right thing.....	(1)	(2)	(3)	(4)
124. Their not showing appreciation/love.....	(1)	(2)	(3)	(4)
125. Problems with their education/school.....	(1)	(2)	(3)	(4)
126. Disappointment in what they are like.....	(1)	(2)	(3)	(4)
127. Not having enough control over them.....	(1)	(2)	(3)	(4)
128. Needing you less as they get older.....	(1)	(2)	(3)	(4)
129. Too many arguments/conflicts with them.....	(1)	(2)	(3)	(4)
130. Interference in relationship with partner.....	(1)	(2)	(3)	(4)

V. FRIENDS AND FAMILY

CC. Directions: The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with friends. For each statement there are three possible answers: Yes, No and Don't Know. Please indicate the answer you choose for each item.

1= Yes 2= No 3= Don't Know.

131. My friends give me the moral support I need.....(1) (2) (3)
132. Most other people are closer to their friends than I am.....(1) (2) (3)
133. My friends enjoy hearing about what I think.....(1) (2) (3)
134. Certain friends come to me when they have problems or need advice.....(1) (2) (3)
135. I rely on my friends for emotional support.....(1) (2) (3)
136. If I felt that one or more of my friends were upset with me, I'd just keep it to myself.....(1) (2) (3)
137. I feel that I'm on the fringe of my circle of friends.....(1) (2) (3)
138. There is a friend I could go to if I were just feeling down, without feeling funny about it later.....(1) (2) (3)
139. My friends and I are very open about what we think about things.....(1) (2) (3)
140. My friends are sensitive to my personal needs.....(1) (2) (3)
141. My friends come to me for emotional support.....(1) (2) (3)
142. My friends are good at helping me solve problems.....(1) (2) (3)
143. I have a deep sharing relationship with a number of friends.....(1) (2) (3)
144. My friends get good ideas about how to do things or make things from me.....(1) (2) (3)
145. When I confide in friends, it makes me feel uncomfortable.....(1) (2) (3)
146. My friends seek me out for companionship.....(1) (2) (3)
147. I think that I'm good at helping them solve problems.....(1) (2) (3)
148. I don't have a relationship with a friend that is as intimate as other people's relationships with friends.....(1) (2) (3)
149. I've recently gotten a good idea about how to do something from a friend.....(1) (2) (3)
150. I wish my friends were much different.....(1) (2) (3)

DD. Directions: The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with their families. For each statement there are three possible answers: Yes, No and Don't Know. Please indicate the answer you choose for each item.

1= Yes 2= No 3= Don't Know.

151. My family gives me the moral support I need.....(1) (2) (3)
152. I get good ideas about how to do things or make things from my family.....(1) (2) (3)
153. Most other people are closer to their family than I am.....(1) (2) (3)
154. When I confide in the members of my family who are closest to me,
I get the idea that it makes them uncomfortable.....(1) (2) (3)
155. My family enjoys hearing about what I think.....(1) (2) (3)
156. Members of my family share many of my interests.....(1) (2) (3)
157. Certain members of my family come to me when they have problems or need advice.....(1) (2) (3)
158. I rely on my family for emotional support.....(1) (2) (3)
159. There is a member of my family I could go to if I were just feeling down,
without feeling funny about it later.....(1) (2) (3)
160. My family and I are very open about what we think about things.....(1) (2) (3)
161. My family is sensitive to my personal needs.....(1) (2) (3)
162. Members of my family come to me for emotional support.....(1) (2) (3)
163. Members of my family are good at helping me solve problems.....(1) (2) (3)
164. I have a deep sharing relationship with a number of members of my family.....(1) (2) (3)
165. Members of my family get good ideas about how to do things or make things from me.....(1) (2) (3)
166. When I confide in the members of my family, it makes me feel uncomfortable.....(1) (2) (3)
167. Members of my family seek me out for companionship.....(1) (2) (3)
168. I think that my family feels that I'm good at helping them solve problems.....(1) (2) (3)
169. I don't have a relationship with a member of my family that is as close
as other people's relationships with family members.....(1) (2) (3)
170. I wish my family were much different.....(1) (2) (3)

V1. SYMPTOMS

EE. *Directions: Indicate how you felt this past week for each of the following items.*

	1= Not at all	2= A little bit	3= Quite a bit	4= Extremely
171. Headaches.....	[1]	[2]	[3]	[4]
172. Nervousness or shakiness inside.....	[1]	[2]	[3]	[4]
173. Being unable to get rid of bad thoughts or ideas.....	[1]	[2]	[3]	[4]
174. Faintness or dizziness.....	[1]	[2]	[3]	[4]
175. Loss of sexual interest or pleasure.....	[1]	[2]	[3]	[4]
176. Feeling critical of others.....	[1]	[2]	[3]	[4]
177. Bad dreams.....	[1]	[2]	[3]	[4]
178. Difficulty in speaking when you are excited.....	[1]	[2]	[3]	[4]
179. Trouble remembering things.....	[1]	[2]	[3]	[4]
180. Worried about sloppiness or carelessness.....	[1]	[2]	[3]	[4]
181. Feeling easily annoyed or irritated.....	[1]	[2]	[3]	[4]
182. Pain in the heart or chest.....	[1]	[2]	[3]	[4]
183. Lying.....	[1]	[2]	[3]	[4]
184. Feeling low in energy or slowed down.....	[1]	[2]	[3]	[4]
185. Thoughts of ending your life.....	[1]	[2]	[3]	[4]
186. Sweating.....	[1]	[2]	[3]	[4]
187. Trembling.....	[1]	[2]	[3]	[4]
188. Feeling confused.....	[1]	[2]	[3]	[4]
189. Poor appetite.....	[1]	[2]	[3]	[4]
190. Crying easily.....	[1]	[2]	[3]	[4]
191. Feeling shy or uneasy with the opposite sex.....	[1]	[2]	[3]	[4]
192. A feeling of being trapped or caught.....	[1]	[2]	[3]	[4]
193. Suddenly scared for no reason.....	[1]	[2]	[3]	[4]
194. Temper outbursts you could not control.....	[1]	[2]	[3]	[4]
195. Constipation.....	[1]	[2]	[3]	[4]
196. Blaming yourself for things.....	[1]	[2]	[3]	[4]
197. Pains in the lower part of your back.....	[1]	[2]	[3]	[4]
198. Feeling blocked or stymied in getting things done.....	[1]	[2]	[3]	[4]
199. Feeling lonely.....	[1]	[2]	[3]	[4]
200. Feeling blue.....	[1]	[2]	[3]	[4]
201. Worrying or stewing about things.....	[1]	[2]	[3]	[4]
202. Feeling no interest in things.....	[1]	[2]	[3]	[4]
203. Feeling fearful.....	[1]	[2]	[3]	[4]
204. Your feelings being easily hurt.....	[1]	[2]	[3]	[4]
205. Having to ask others what you should do.....	[1]	[2]	[3]	[4]
206. Feeling others do not understand you or are unsympathetic.....	[1]	[2]	[3]	[4]
207. Feeling that people are unfriendly or dislike you.....	[1]	[2]	[3]	[4]
208. Having to do things very slowly in order to be sure you are doing them right.....	[1]	[2]	[3]	[4]
209. Heart pounding or racing.....	[1]	[2]	[3]	[4]
210. Nausea or upset stomach.....	[1]	[2]	[3]	[4]
211. Feeling inferior to others.....	[1]	[2]	[3]	[4]
212. Soreness of your muscles.....	[1]	[2]	[3]	[4]
213. Loose bowel movements.....	[1]	[2]	[3]	[4]
214. Difficulty in falling asleep or staying asleep.....	[1]	[2]	[3]	[4]
215. Having to check and double check what you do.....	[1]	[2]	[3]	[4]
216. Difficulty making decisions.....	[1]	[2]	[3]	[4]
217. Wanting to be alone.....	[1]	[2]	[3]	[4]
218. Trouble getting your breath.....	[1]	[2]	[3]	[4]
219. Hot or cold spells.....	[1]	[2]	[3]	[4]
220. Having to avoid certain places or activities because they frighten you.....	[1]	[2]	[3]	[4]
221. Your mind going blank.....	[1]	[2]	[3]	[4]
222. Numbness or tingling in parts of your body.....	[1]	[2]	[3]	[4]
223. A lump in your throat.....	[1]	[2]	[3]	[4]
224. Feeling helpless about the future.....	[1]	[2]	[3]	[4]
225. Trouble concentrating.....	[1]	[2]	[3]	[4]
226. Weakness in parts of your body.....	[1]	[2]	[3]	[4]
227. Feeling tense or keyed up.....	[1]	[2]	[3]	[4]
228. Heavy feeling in your arms or legs.....	[1]	[2]	[3]	[4]

VII. LIFE SATISFACTION

FF. Below are some statements about how persons may feel about their lives. For each one, please indicate how much you personally agree or disagree that these correspond with how you have felt this week.

1= Agree Strongly 2= Agree Somewhat 3= Disagree Somewhat 4= Disagree Strongly

229. In general, I would say that I am happy[1] [2] [3] [4]
 230. Overall, I am satisfied with my roles in life.....[1] [2] [3] [4]
 231. In general, I am very satisfied with the way I am spending my life these days.....[1] [2] [3] [4]
 232. I am very satisfied with the kind of person I am[1] [2] [3] [4]
 233. I rarely enjoy doing the things I do[1] [2] [3] [4]
 234. I frequently wish that I could start my life over again[1] [2] [3] [4]
 235. My life situation is very frustrating to me[1] [2] [3] [4]
 236. I take a positive attitude toward my life situation.....[1] [2] [3] [4]

VIII. FINANCIAL

GG. Do you receive any financial support from your Institution or program
 (i.e. scholarships, fellowships, assistantships, grants, etc.)?

1= Yes 2= No.....[1] [2]

HH. How are you supported financially?.....[1] [2] [3] [4]

- 1= Self supporting (includes financial aid, paid employment, etc.)
 2= Supported by mate
 3= Supported by pooling resources with mate/others
 4= Supported by parents/other relatives

II. How would you describe your current financial situation.....[1] [2] [3] [4]

- 1= Very uncomfortable
 2= Uncomfortable
 3= Comfortable
 4= Very comfortable

IX. ABOUT YOU

JJ. What is your age?.....

KK. What is your race/ethnic identification?.....[1] [2] [3] [4] [5]
 1= Black 2= White 3= Hispanic 4= Asian 5= Other.....

LL. What is your citizenship?.....[1] [2]
 1= U.S. 2= Non-U.S.

X. Comments

Is there anything in your current experience that has not been addressed in this survey? Please write your comments and reactions here. Use additional paper if more space is needed.

 If you wish to receive summary findings please complete the following information (it will be separated at encoding):

Name:

Address:

City/Zip:

APPENDIX C
MEMO TO MEDICAL STUDENTS

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

SCHOOL OF MEDICINE

SAN FRANCISCO, CALIFORNIA 94143-0454

April 19, 1990

TO: UCSF WOMEN MEDICAL STUDENTS

FROM:  Philie Osborn, MD
Associate Dean for Student and Curricular

I hope that you will take the time to read over and answer this survey/questionnaire on the impact that women's many roles in life have on their professional training.

Ms. Coralie Sherer, a doctoral candidate in counseling psychology, is a member of the counseling staff at the Student Learning Center at UC Berkeley. Ms. Sherer has provided her phone number to you if you have any questions about her research project.

EO/jm

APPENDIX D
MEMO TO LAW STUDENTS

UNIVERSITY OF CALIFORNIA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

SCHOOL OF LAW (BOALT HALL)
BERKELEY, CALIFORNIA 94720-2499
TELEPHONE (415) 642

August 20, 1990

To: Boalt Hall Women Law Students

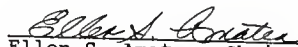
From: Leslie Oster, Assistant Dean

Ms. Coralie Scherer, a doctoral candidate in counseling psychology at the University of Florida, has devised the attached questionnaire to gather data for her dissertation. She is particularly interested in the impact that women's many roles in life have on their professional training. If you have any questions about her research project, please contact her at 591-2191.


BIOGRAPHICAL SKETCH

Coralie R. Scherer was born and raised in Miami, Florida, and was a pure product of the Florida educational system. She entered the University of Florida as a freshman in 1967 in receipt of a Florida State Teachers' Scholarship. She graduated with high honors in 1971, earning a Bachelor of Arts in English with a minor in comparative religions. She received a Ford Fellowship for her master's work and earned the Master of Arts in English with a minor in Education from that same institution in 1973. She taught English and reading in Florida public schools for a number of years before becoming involved in the administration of educational grants. While serving as Assistant Director of the Program for Retirement Counseling she became interested in the counseling field and later entered the counseling psychology program through the Counselor Education Department at the University of Florida. After completing her predoctoral internship at the University of California at Berkeley she remained in the San Francisco Bay Area. She now lives in Belmont, California, with her husband and two children.

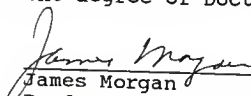
I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


Ellen S. Amatea, Chair
Professor of Counselor Education

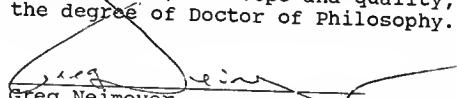
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Harry Grater
Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

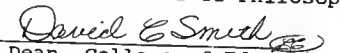

James Morgan
Professor of Counselor Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.


Greg Neimeyer
Associate Professor of Psychology

This dissertation was submitted to the Graduate Faculty of the College of Education and to the Graduate School and was accepted as partial fulfillment of the requirements of the degree of Doctor of Philosophy.

May, 1991


Dean, College of Education


Dean, Graduate School

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